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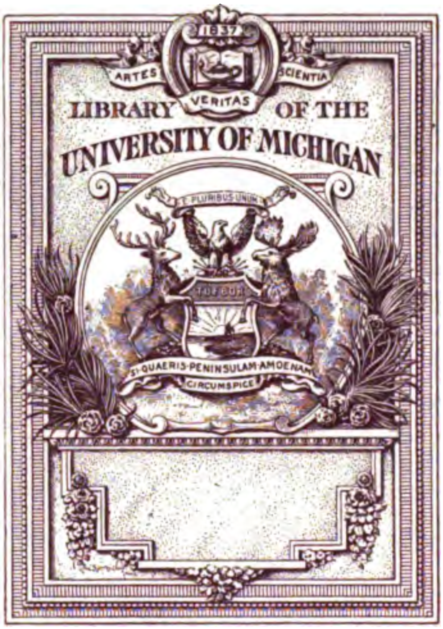
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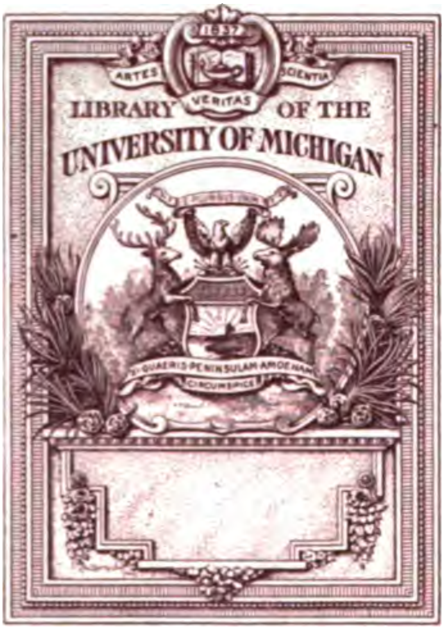
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AMERICAN PHOTOGRAPHY

INCORPORATING

AMERICAN AMATEUR PHOTOGRAPHER
Established 1889
CAMERA AND DARK ROOM
Established 1898
PHOTO BEACON
Established 1889

Volume I

JULY–DECEMBER, 1907

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THE LAST GLOW **W. H. WINCHESTER, M. D.**

First Prize, Landscape Competition

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EDITORS:
FREDERICK C. BEACH, DR. JOHN NICOL, FRANK R. FRAPRIE, J. P. CHALMERS,
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Original manuscripts on photographic subjects are solicited, and if accepted will be paid for on publication. New ideas, practical hints and reports of club meetings are desired. Matter intended for publication in any number should reach us not later than the 15th of the previous month.

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VOL. I. JULY, 1907 No. 1.

THE INFLUENCE OF WHAT WE BRING.

BY DR. JOHN NICOL.

"In Stratford, as everywhere, your happiness depends in large measure upon what you bring to Stratford." So wrote a representative of the Chicago *Record-Herald* while he was spending a week in Stratford during the recent Shakespeare Annual Festival; and we make the statement the text for a little talk on "bringing" generally.

In speaking of pictures we have often said that we see in a picture largely what we bring to it, a statement that equally applies to almost everything in which we are interested or with which we are connected. How few modern books, for example, give up their best to, or are fully appreciated and enjoyed by, those whose minds are not stored with much that has gone before! or how flat the music by even the greatest masters falls on the ears of those whose culture has not gone beyond the popular "ragtime"! So also is it with the thousands who annually cross the ocean to enjoy the attractions of the older civilization. Take Edinburgh, for example, the Scottish capital. Even he who brings to it nothing but the love of the beautiful will find much to enjoy, but infinitely more will be the pleasure of those whose minds are stored with the facts of its ancient history and to whom every stone of the two parallel streets from the Castle to Holyrood acts as a bond between the present and the past, and impresses those facts on the memory better than could the reading of many books.

At present, however, we are more interested in the influence of this "bringing" on photography or rather the photographer; not, of course, the mere button presser who takes to it as an amusement during a holiday, but he who aims at picture making and is willing to make all preparation necessary to secure success. The question, therefore, is as to that necessary preparation.

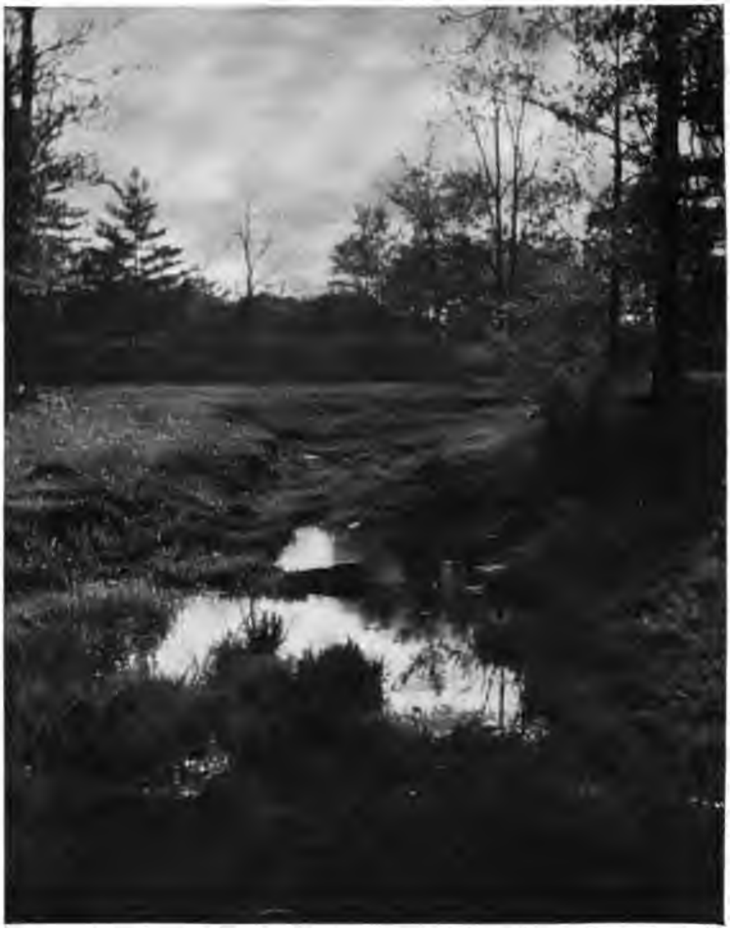
In spite of the belittling of photographic technique by some pictorialists, we consider it the first essential to the making of pictures by photography; and in it we include as much of the theory as of the practice of the art. We include also the making of the as nearly as possible perfect negative with its essential, as nearly as possible correct exposure; and in spite of all that has been said of latitude, the perfect negative can only come from a perfectly correct exposure. Then, as the taking of a large camera to the field is almost a thing of the past, the would-be picture maker must know all or most that is to be learned of the various methods of enlargement as well as of printing with all its possible modifications; the day of the straight print from the straight negative being confined to the simple "record," which may, *en passant*, be said to be as interesting and as valuable as the pictorial. From a straight negative full of delicate detail and gradation (the nearly perfect negative), the properly equipped photographer may, with equal success, print lantern slides, records of fact or truly pictorial photographs.

But to do the latter he must bring to the work a knowledge of Art with the big A, and that only comes through careful study and perseverance; as although artists are born, not made, study and perseverance will largely make up for the lack of the prenatal equipment.

But while an acquaintance with technique and a knowledge of art may be sufficient for the production of pictorial photographs, there are other bringings which may be said to be above price, as they give a new interest in cosmical phenomena and largely contribute to that happiness which is perhaps the strongest desire of the human heart. Cosmical phenomena, perhaps better than any other words, conveys the thought in our mind, as we refer to the nature, properties and progress of all or most that transpires in this world of ours.

Of two men, let us say photographers, each with camera in hand looking for the beautiful, the one such as represented by the poet to whom "A primrose by the river's brim a simple primrose was to him, and it was nothing more"; the other equipped with such knowledge as we have suggested. The first probably enjoys his outing as much as he is able. but his limitations are such that he may be compared to an ounce bottle as against the full quart of his better equipped companion. To the former the time is little better than a monotony except for the few exposures he makes, while the latter sees something interesting at every step. He knows the trees and flowers by name and descants on the nature and habit of every bird that they see. He is equally at home by the ocean, recognizing the inhabitants of every pool left by the receding tide, and is as well acquainted with what may be called the flora of the sea as with the flowers in his own garden. The sand dunes are more to him than merely mounds of sand and the boulders in other localities tell him stories of the long ago; all of which add to his photographic outings charms altogether unknown to his less equipped companion.

If it be true, and we cannot doubt it, that the artist endows his pictures



THE POOL IN THE MEADOW — JESSIE B. DIXON
Second Prize, Landscape Competition

with some of his individuality, the higher his degree of happiness and contentment the better will those pictures be; and he who aims high should let pass no opportunity of equipping himself with that desirable knowledge of cosmical phenomena.

An efficient focusing scale that is thoroughly understood is an essential for the Press photographer who does not use a reflex camera.

Always whenever possible take several shots at the same incident, but slightly different from each other. No exception can then be taken to them by the editors if reproduced in different papers.

The editor should in all cases be studied, and the print that reaches him first, accompanied with a brief paragraph or other descriptive data, will probably be accepted before the photograph sent with no particulars.

EXPERIMENTING PICTORIALLY.

By F. Dundas Todd.

When the camera user, whether amateur or professional, gets weary of the ordinary thing in photography and develops pictorial aspirations, he immediately begins to inquire what is the shortest road to Art. Such questions as have been put thousands of times to me would indicate that the majority of the human race are of opinion that all the principles of art can be taught in a few minutes, this notwithstanding the old saying, "Art is long and time is fleeting." As a matter of fact, no man, no matter how brilliant, can ever learn all that is to be known about art for the simple reason that it is largely a condition of the mind and, since we are compelled by our environment to change our mind, our art ideals must follow suit.

During the past dozen years I have never been without some enthusiast in almost daily correspondence with me because of his ardent desire to become a pictorial photographer. Many experiments have I tried on such individuals and I feel it might be wise to tell of a few of them in the hopes of influencing a wider circle.

My first pupil was a business man about forty, who in a moment of irritation after a dispute with a friend sent me some prints for my opinion. He got it all right, and unlike most of such individuals, he arose to the occasion and determined to do better than his friend, no matter what happened. For several weeks never a day passed without a few prints reaching my desk and soon he began to catch on to some of the ideas that determine good composition, but when it came to light and shade he could not make any headway. At last a happy idea struck me, and I picked out that one of his prints that showed the best composition and advised him to be on the ground at dawn and photograph it about every hour until dark and then he would see what happened. He took my advice and sent me about one dozen prints, which proved to be one of the most instructive sets that ever came into my hands. I have given the same advice frequently since, and in every instance with excellent results, and beg to give it again with a sincere hope that thousands of my readers will make the experiment, and I can assure them they will learn more about lighting from a day so spent than from hundreds of exposures made in a haphazard fashion.

While speaking of lighting, let me also point out what a wonderful difference there is between a subject taken in full sunshine and the same photographed when the light is dull. With water subjects, especially on the seashore, the difference is very marked.

The friend I am speaking of once made a trip of over a thousand miles just to spend one day in Chicago with me. He brought along his camera and a dozen plates, and with these we started for one of the public parks. I allowed him to choose his subjects and then objected to his points of view and the lighting until he hit on a combination that was satisfactory to me. For over two hours we went on like this, but somehow he did not seem to comprehend what I was aiming at. The turning point of the day was when he tackled a rather picturesque bit that consisted principally of a pond with

THE JACKSON MEADOWS — Honorable Mention, Landscape Competition — MISS CORA A. TILDEN

some lilies in the foreground and large trees in the distance. On focusing this scene he found that when the ground glass was horizontal, the essentials of the view occupied but a very small space in the center. On turning the ground glass upright the horizontal arrangement was better, but there was a vast expanse in the lower half of the paper. I allowed him to wrestle with the problem for about five minutes, but he could not see the way out. I then suggested that the horizontal view had the better possibilities, but that he ought to spread out the subject. We were standing on the very edge of the pond and he therefore pointed out that it was utterly impossible to get any closer so that the lilies in the foreground would appear larger. I shifted his camera just one yard sideways and at once the composition spread itself out so that the arrangement became satisfactory. My friend exclaimed, "This little trick is worth all my journey and now I have something tangible to take home with me."

We have seen just how much can be effected by a slight movement of the camera in a horizontal direction, something that many thousands know, but very few realize how important is the height of the instrument above the ground. Until recent years I have very frequently heard artists complain that photographs always lack atmosphere. They pointed out that most landscape subjects consisted essentially of foreground, distance and middle distance, but that in the average photograph one rarely finds more than two of these. As a matter of fact, the average photograph displays far too much

NATURE'S MIRROR — WM. L. BOLLOW
Honorable Mention, Landscape Competition

foreground, which is largely due to the camera being set too high. Most professional and amateur photographers arrange the camera to suit their own height, whereas the elevation should be determined by the pictorial qualities of the subject. At one time I put in a good deal of experiment on this problem, in fact I spent a month's holiday doing little else but "viewing" with the instrument and exposed but a very few plates. One of the most charming photographs in my collection was made with the camera resting on the ground so that while focusing I was extended at full length. As the view was taken in a public park I need scarcely say that many hundreds watched my curious antics.

In portraiture one can with advantage make many hundreds of experiments. For instance, there is the great problem of expression, which makes or mars a portrait. It is dependent on many things, but after long consideration I am convinced that the most of it depends upon the relationship of the body, head and eyes. The possible combinations of these are almost unlimited, and so a very interesting series of experiments can be made. The most stolid expression I know can be readily secured by getting the sitter to sit facing the camera so that the body, head and eyes are all looking in one direction, namely, that of the lens. The most alert expression is got when the body is turned away at almost right angles to the direction in which the lens is pointing and the sitter is looking into the lens, but even here one has to be careful because it makes all the difference in the world whether the sitter's head is leaning away from the camera or towards it. In the one case the expression will be rather meek, in the other more self-reliant. These are merely hints, not to beginners only, because I find the vast majority of professional photographers do not realize these apparently simple matters.

Another fruitful and interesting field of experiment is to be found in the

WESTBROOK J. H. WILDT
Honorable Mention, Landscape Competition

realm of printing. Printing papers are classified in various ways, but the most important classification, so far as pictorial qualities is concerned, is that determined by the character of the surface, whether it is smooth and glossy or matt and dull. It will pay every photographer to take a favorite negative and print it carefully on at least a half dozen different brands of paper, and to consider them carefully not from the standpoint of detail, but from that of pictorial quality, more especially when viewed from a distance of two or three feet.

PRESS PHOTOGRAPHY.

Prints for reproduction can be made in half-an-hour from the occurrence of the event depicted, by a smart worker.

After the negative has been taken, the Press photographer will get through his work quicker by using artificial light only.

If time permits, make enlargements on glossy bromide paper instead of contact prints.

The Press photographer should lose no opportunity of training the eye for measuring distances.

If many plates have to be developed at once, vertical development in a grooved porcelain trough will effect an economy of both time and space.

If several negatives are to be printed and they are all of a similar density, they should be ranged round an electric light globe or gas lamp, which, when turned up, will expose the lot.

Use plenty of yellow light in the dark room when turning out a large batch of bromide prints. There is then less chance of things going wrong.

A SILVER EMULSION FOR STRIPPING AND TRANSFER.

By A. J. Jarman.

The removal of a silver printed emulsion film is often desired by the amateur photographer so that it can be transferred to some other surface, perhaps a watch dial, or to the cap or lid of a watch. Miniatures for the dial of a watch can be made perfectly in this way.

The one important point to be attended to to make the process successful, is to have the paper prepared right, so as to allow the film to be easily removed when required, and also to have a good brilliant negative that is not fogged or clogged in the shadows—just a nice, clean, bright negative. Unlike the production of pictures for transfer by the carbon process, the negative need not be a reversed one; any negative taken direct in the camera will do.

In the first place, procure a few yards of baryta coated paper; the color of the coating will not matter; that with a glossy surface is the best suited. Cut the paper up into sheets 6½ x 8½ or 8 x 10. Place these in a printing frame upon a sheet of stout glass, and keep them under pressure for twelve hours or more; this will take out all the curl they may possess. Do not try to hurry the process by turning the sheets of paper backwards, because this may crack the film and thus injure the surface both of the paper and the collodion surface. Give them twelve hours' pressure, when it will be found that the sheets are perfectly flat. Prepare the following gelatine mixture:

Heinrich's soft gelatine or Nelson's No. 1...	130 grains
White granulated sugar	30 grains
Filtered water	10 ounces

Place these in a clean, small stoneware pitcher; allow the gelatine to soak for half an hour; then place the pitcher in a saucepan half filled with rather warm water. Heat the water to boiling point and stir the mixture from time to time, until the whole is dissolved; the heating may be kept up for about five minutes. Have at hand a clean porcelain tray, about 10 x 12; wash this out with warm water, and place it upon another smaller tray, containing hot water, the object being to keep the coating material at a proper temperature, which is important for this particular purpose. Now take a clean basin and lay over it a four-folded piece of cheesecloth, a piece about eighteen inches square well washed in warm water and wrung out, then tied or held upon the top of the basin; now pour the gelatine mixture through the cheesecloth. This done, pour the filtered solution into the warm tray; see that there are no air bubbles formed; if so, they must be removed by drawing over the surface a strip of clean cardboard. Take one of the sheets of baryta paper by the opposite corners, bend it in the middle so as to allow the centre of the paper to first touch the warm liquid, then lower each end carefully; should the paper curl at all, breathe upon the back of the sheet with a damp, warm breath; the paper will quickly become flat; as soon as the paper does lie flat, it may be removed from the tray and suspended in a dry, warm room free from dust to dry, by two clean wood

THE WEAVER MATTIE S. MITCHELL

One goes up and one goes down,
The weakest succumb to the strife;
The threads are often tangled and torn
In weaving the weft of life.—*C.*

clips. A piece of well-stretched copper wire is best suited for this; it is much better than string because there are no fibres to be disturbed and settle upon the paper. This paper when dry will keep good for two years, and should be kept under pressure until required for use. This insures perfect flatness and does not become injured before use. The emulsion is made up in the following manner:

COLLODION.

Pyroxylin (gun cotton)	47 grains
Pure photographic alcohol	3 ounces
Sulphuric ether	5 ounces

This mixture must be shaken up well to dissolve the pyroxylin. Label this bottle "Stock Collodion." About half a dozen amber glass bottles will be required, well cleaned out, and fitted with clean corks, and dried. Now prepare the following solutions:

No. 1.

Nitrate of silver (c. p.)	240 grains
Distilled water	4 drachms

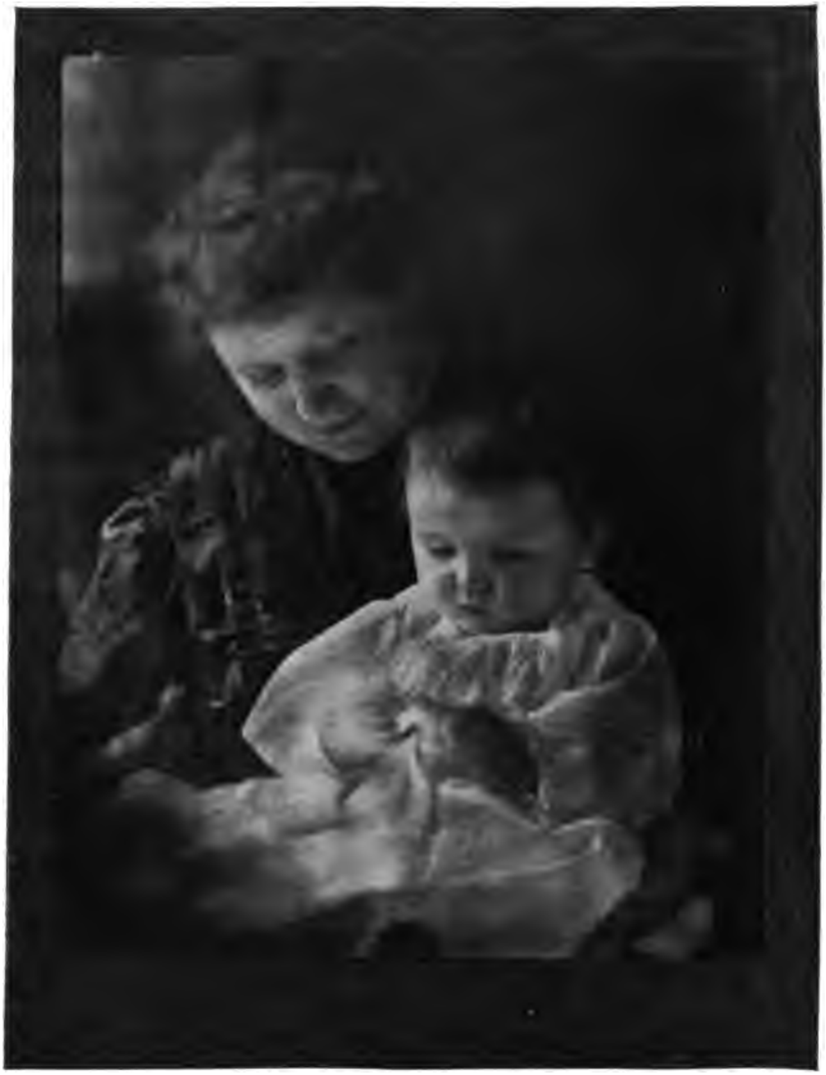
No. 2.

Chloride of strontium	128 grains
Pure photographic alcohol	4 ounces

No. 3.

Citric acid (powdered)	128 grains
Alcohol (pure photographic)	4 ounces

See that all the ingredients of the above solutions are completely dissolved. Now take a separate clean bottle; pour into it four ounces of the stock collodion; add sixty drops of solution No. 1 to two drachms of alcohol. Shake this well and add to the collodion; shake this mixture well, then add two drachms of No. 2; shake this vigorously and add, finally, one drachm of No. 3. After shaking the mixture well once more, allow it to stand for half an hour, when it will be ready for use. All these operations must be done away from actinic light; they may be carried on under the light of an oil lamp or a gas jet. Take one of the sheets of gelatined paper; fold the sides and ends up for about a quarter of an inch all round; make a lip at opposite corners of the sheet; place this upon a piece of cardboard and hold it in position with just a touch of sealing wax. Filter the collodion emulsion into another amber bottle by pressing a tuft of absorbent cotton into the neck of a small glass funnel; when filtered, take the cardboard supporting the paper in one hand, pour a pool of the emulsion in the centre, flow all round, then return to the funnel to be filtered again, pouring from one of the folded corners. Suspend the coated paper to dry, which quickly takes place; then recoat with the same emulsion, only pour off from the opposite corner; this will give an even surface. Dry again, when the paper is ready for use. Cut the paper up into the sizes required; place the paper upon the negative just the same as in ordinary printing; make the print about the same in depth as an ordinary silver print; wash it about twice in clean water, then tone in a borax bath made up as follows:



No. 4 MOTHER AND CHILD F. M. TERHUNE

Saturated solution of borax	2 ounces
Solution chloride gold	2 drachms
(1 grain chloride gold to 1 ounce water.)	
Water	8 ounces

Toning will be complete in from 3 to 5 minutes. The print can be handled with a pair of tongs, at the corner. Wash in a small tray of cold water, then fix in a clean solution of hyposulphite of soda as follows:

Hyposulphite of soda	1½ ounces
Water	10 ounces

The print will be fixed in five minutes. Wash it well for a quarter of an hour after fixing, by several changes of water; it may now be blotted and cut to the size and shape required. If the object is a watch dial, clean the surface well. Of course, the dial must be removed from the watch. Place the print into a basin of clean, warm water; in a very short time the film will become removed. Lift it with a clean camel's hair brush; lay it down upon the place required and carefully stroke it into position with the brush, and wipe out the excess of moisture by the same means. As soon as it is dry it can be varnished with amyl acetate collodion and dried. The whole dial may be coated; no harm will come of it, as the varnish is quite invisible when dry. If it is desired to transfer to *smooth* porcelain or opal glass the operation will be just the same. If toning is done in an acid platinum bath after the gold toning, then the print must be made much deeper in the first place. Transfer can also be made to watch surfaces in the same way, there being just enough of the gelatinous mixture to enable the film to adhere to the metal or glass.

The same emulsion can be used for making lantern transparencies, but the printing must be carried very deep, the toning being done either with the gold bath or with platinum, or both, in just the same way as with aristo platino. In the case of lantern transparencies no transfer is required; simply coat the glass and print the same as with paper. View the depth of printing from the back; when the shadows are well browned in, the plate can be removed and toned, fixed and washed the same as in the case of the paper print for transfer.

The transparencies can be varnished in just the same way as the transferred print. The amyl acetate collodion for varnishing is made of 120 grains of gun cotton (pyroxylin) dissolved in three ounces of concentrated amyl acetate, shaken up well, then filtered through a piece of clean washed out cheesecloth lightly pressed into the neck of an ordinary glass funnel; when filtered it is ready for use, and may be dried either spontaneously or by the aid of heat. A pool of the varnish is poured upon the plate or dial, and the excess returned to the bottle; the plate or dial is then drained well and stood upon blotting paper to dry.

There is a growing demand for the photographic advertisement. Press photographers should take advantage of all likely subjects, and submit prints to well-known advertisers. Children and animals are favorites for advertising pictures.

TAKING A TRAMP IN THE COUNTRY R. R. SALLOWS

A SUMMER SQUALL

F. J. MORTIMER

THE INTENSIFICATION AND REDUCTION OF GELATINE NEGATIVES.

Read at the Seventh General Meeting of the Edinburgh Photographic Society of Session 1906-1907 by Mr. A. J. Garwood of the Glasgow and West of Scotland Amateur Photographic Association.

I purpose to-night to deal with a few of the better known methods of mercurial intensification, and also to draw your attention to some revised formulæ for an old chromium method. As I shall have to refer to this more fully later on, I will reserve any further reference to it until that time. The subject of chemical reduction is, in my opinion, of equal, if not of even greater importance, than that of intensification; but it is by no means so well known. As a matter of fact there are numbers of negatives intensified, which, with the printing media available at the present day, would be far better reduced. Without going into the chemistry of intensification I will merely say that the methods of it to which I shall refer are based on the simple fact that it is possible to convert the silver in a photographic negative into a compound which is capable of being made darker than it was in its original state; and, further, that this darkening can be varied in its intensity by a judicious selection of the reagent used to produce it. It is convenient here to refer to some elementary, but nevertheless important, points which bear, more or less, on all the methods I shall refer to, whether of intensification or reduction. In the first place I must insist that the negative to be treated be thoroughly free from hypo. If there is any doubt about this the negative must be rewashed, as, if there be any appreciable amount of hypo present in the film, staining is inevitable.

The surface of the negative should also be quite free from all dirt or grease, caused frequently by incautious handling of the film with greasy fingers. To remove this the negative may be placed in a bath of dilute ammonia, say 10 minims of the 880 deg. solution to the ounce of water, and its surface gently rubbed with a tuft of cotton wool, then finally washed in running water for ten to fifteen minutes. If ammonia is not at hand a little of the No. 2 solution of an alkaline developer will answer the same purpose. Generally speaking, it is useless to attempt the intensification of a locally fogged or stained negative. Stains are, in most cases, very difficult to remove, but a general fog may often be very successfully removed by means of a reducer to which I shall refer later on. It is important that the water used in making up the various solutions be pure. We in Glasgow are highly favored in this respect, but in some districts it would be quite necessary to use either distilled water or some which has been boiled and allowed to cool. I am convinced that a large proportion of the failures in attempts at intensification are due to the neglect of the foregoing simple precautions, coupled with the expectation of the impossible. You may strengthen existing detail and tones in a negative by means of intensification, but there is no process of it which will put these where they have never existed.

Some authorities advocate the carrying out of all the processes of mercurial intensification in the dark room, whilst others again say that this is unnecessary. For my own part I invariably do this work in diffused daylight, and have never been able to see any difference between a negative treated in this manner and one which has been done in the dark room.

The bleaching agent usually employed in mercurial processes is the bichloride of mercury. I notice that most of the published formulæ for this give a saturated solution of salt for the purpose. This, in my opinion, is open to the objection that there is always some risk of undissolved particles of the salt being carried over and settling on the plate, and if these are not immediately removed, spots, sometimes opaque, at others transparent, will occur. Personally I prefer the following formula, which is one I can with every confidence recommend, viz.: Bromide of potassium, 100 grains; bichloride of mercury, 100 grains; water, pure, 10 ounces. The mixture should be shaken to assist solution, and it should then be filtered. The result should be a clear, colorless liquid which will keep for years, and may, with occasional filtration, be used over and over again. It is a dangerous poison, readily absorbed by the skin, and one's fingers should therefore not be unnecessarily dabbled in it. If, on use with any particular negative, the solution should turn milky, it is a sure sign of the presence of hyposulphites, and the discolored portion of the liquid should be discarded.

The negative to be treated is placed in this solution, and with gentle rocking allowed to remain until it is bleached right through, and appears of a white or grayish white color on both sides. It should now be washed in gently running water for not less than half an hour, and is then ready for darkening. There are innumerable methods of darkening the plate. Those I have selected for reference to-night are some which I can recommend on the scores of general utility and permanence. I may say in passing that I think where a good many fail at intensification is in tying themselves to one particular method of darkening the plate, with a frequent result of the negative being made too dense. I think I shall be able to show that there is considerable choice in this direction.

Where only a slight increase in density is required the bleached negative may be placed in a 10 per cent. solution of soda sulphite until it is blackened right through, and should then be well washed and dried. I am quite aware that this method has, within the last few years, been the subject of rather severe attacks, but having used it with almost unvarying success for the last fifteen years my confidence in it is by no means shaken. One of the defects urged against it is that its effect is slight. Quite so, and here in many cases is its great advantage. The solution must be quite fresh, and it is advisable not to use the same dose more than once, or staining may result.

If the effect produced by the soda sulphite proves insufficient the negative may be rebleached, and, after thorough washing, placed in an ordinary ferrous oxalate developer, until, on looking through it, it appears to be sufficiently intensified, making allowance for the fact that its density will probably decrease a little on drying. If the action is still found to be insufficient, the whole of the processes of rebleaching, washing, and darkening may be repeated for the second, and even third, time, using ferrous oxalate for the redeveloper in each case. In this respect this method differs from the other mercurial methods I shall give. Although by no means the easiest of them, it is undoubtedly the best, and has the support of all scientific authorities as being permanent. Its action, which may be stopped by simply removing the negative from the solution and well washing it, is slow and well under control. By its successive repetition a good printing negative may be literally built up from a mere "ghost," provided always that detail, however faint, exists to start with. The most scrupulous cleanliness is necessary to ensure freedom from stains. Any trace of pyro. in dishes, or on fingers, will cause the most horrible ink-like stains which are impossible to remove.

For those who do not use a ferrous oxalate developer, a simple way of making up a small quantity of this solution is to refer to a table of solubilities, given in all good text-books, and, by its aid, make up two saturated solutions, one of neutral oxalate of potash and the other of protosulphate of iron, and, after filtering each of them, take six parts of the potash solution, and add to it one part of the iron solution, taking care to mix them in the order given or the iron will be precipitated in a muddy mass.

Another method which gives a rather greater effect than a single treatment of the ferrous oxalate one is known as the silver cyanide method. The solution for this method is prepared thus: Take two clean beakers, or measures, each containing 5 ounces of pure water. In one of them place 50 grains of silver nitrate, and in the other 50 grains of potassium cyanide. Allow the two salts to completely dissolve, and then add the cyanide, slowly, drop by drop, and stirring after each addition, to the silver nitrate solution. This must be continued until the cloudy precipitate first formed is nearly, but not quite, all dissolved. This point is important, as if the silver is not slightly in excess a reducing action may take place when it is applied to the negative Obviously, this solution should not be filtered. The heavy precipitate readily sinks to the bottom of the bottle and the clear portion is easily decanted for use.

Place the bleached and well-washed plate in this solution, and, with gentle rocking, allow it to remain until it is blackened right through to the back, when it should be removed, washed in gently running water and dried.

Like the bichloride of mercury solution previously given, this silver cyanide will, if properly prepared, keep for years, and may be used over and over again. It is also a dangerous poison. The bottles containing these two liquids should be labeled "Poison," and, when not in use, kept under lock and key.

Another method giving a still greater effect than the foregoing is to immerse the bleached plate in a solution of Schlippe's salt (sodium-sulphantimoniate) made up thus: Water, 1 ounce; Schlippe's salt, 15 grains: liquor ammonia (880°), 1 drop. The action of this is almost instantaneous and gives a brown black deposit of great density. I have found it of great value where a perfectly white ground is necessary, such as copies of black line plans, printed matter, etc.; the development of the negative being stopped before any signs of blocking or veiling of the fine lines have appeared, and the plate fixed and washed, then afterwards intensified by this method.

Now, gentlemen, this concludes all the mercurial methods I propose to give to-night, and I will now pass on to the chromium method to which I referred at the commencement of my paper. As far back as the year 1881, the celebrated German chemist, Dr. Eder, in his Jahrbuch, published particulars of a method of chromium intensification. For some reason or other the matter appears to have created very little interest, and, apparently, dropped.

In the *Amateur Photographer* for October 25, 1904, an article on this subject, by Messrs. Piper and Carnegie, appeared. Now, as the process does away with what I have often heard fellow-workers express their great dislike to, namely, the poisonous nature of some of the solutions used in mercurial intensification, I thought it worth while to take the matter up; especially as the process appeared to offer certain other advantages over most of the mercurial methods; one of these being its close analogy to the mercury-ferrous oxalate in what I may term its cumulative action.

I started experimenting at once, but for a long time was quite unsuccessful; for although I got the intensification all right, I could not keep the films on the plates. It seemed, in fact, to be a perfect stripping process, no matter what redeveloper or what modification of the authors' formulæ I tried. After working away for some five weeks in this manner, some lucky chance, for quite another purpose, induced me to get some amidol. I had up to this time never used this developer, but on trying it for the intensification experiments, I was at once successful, and have not had a single failure, by frilling of plates, since. Apparently the same thing must have troubled the authors, for in a subsequent article, published in the same paper for June 6, 1905, they state that, for the redeveloper, they recommend amidol in preference to any other. So much for the introduction; now for the process; for details of which I quote freely from Messrs. Piper and Carnegie's two articles.

The bleaching agent used with this process is bichromate of potash, the authors' working formulæ for which are as follows:

	A.	B.	C.
Potassium bichromate.........	5	10	10 grains.
Hydrochloric acid.	1	5	20 minims.
Water	1	1	1 ounce.

Solution B is the most generally useful, the result produced by it being about the same as that of a single operation with mercury and ferrous oxalate. The stronger the solution is in acid the weaker is the resulting intensification.

Place the well-washed plate in the solution, rock gently, and when the last tinge of grayness disappears, remove it, and if it is now of a uniform yellow color on both sides place it to wash in running water until the last trace of yellow is removed. This usually takes about twenty minutes, but if it is desired to shorten the operation the plate may, after some two or three minutes under the tap, be removed and a 2 per cent. solution of metabisulphite of potassium be poured rapidly on and off it several times in succession, until the stain has disappeared. After a final rinse under the tap the redeveloper can be applied. Nothing stronger than 2 per cent. of the metabisulphite must be used, nor must the plate on any account be allowed to soak in it, or a loss of density will occur. In fact, it is far better to let the plate wash thoroughly in water, only using the metabisulphite for obstinate cases. My own experience with this is that with a pyro-developed negative, already stained yellow, it is practically impossible to remove the yellow stain, whether the metabisulphite be used or not, and that the best plan with such negatives is to give them, say, thirty to forty minutes washing in running water to ensure the removal of the chromic salts. This difficulty does not occur with negatives developed with the more modern non-staining developers. After this washing the plate is placed in a redeveloper of amidol of the ordinary strength as used for plates, say: Water, 5 ounces; soda sulphite (crystals), ¼ ounce. When dissolved, add amidol, 10 grains. Let the plate blacken right through, and then wash for half an hour in running water, and dry. Density increases slightly as the negative dries.

Of the three solutions, A is decidedly the slowest in action, does not keep long, and is more liable to cause frilling of the plate. Any trouble that I have had in this direction, since I adopted amidol as the redeveloper, has been with this solution. The other two solutions keep in good working condition much longer, the additional acid in them probably acting as a preservative.

I now come to that part of my paper dealing with reduction, and the first reducer I will refer to is a mechanical one and is known as Baskett's or the Globe Metal Polish Reducer. I introduce this, not perhaps so much for its reducing property as for its general utility in cleaning a negative. It is very useful for removing light patches of fog, surface marks, etc.; and for removing that disagreeable iridescent stain which so frequently shows itself on old unvarnished negatives it is unequaled, being far and away superior to the methylated spirit treatment usually advocated for this purpose. By its aid hard places in the negative may be softened down, and skies, otherwise rather too dense, may be frequently so reduced as to enable the clouds in the negative to be printed with the foreground without any masking, etc.

The reducer is composed of olive oil, 1 ounce; painters' terebine, 1 ounce; to which is added a penny box of Globe Metal Polish. Stand the mixture in a warm place, give it an occasional shake, and when completely dissolved it is ready for use. Like many other good things it requires a little care in its use, or a negative may be very easily spoiled with it. A good method of using the mixture is to get some of the oldest and softest white rags possible; see that they are free from dust, stitchings, hems, or anything likely to scratch. Make up a piece of the rag into a small round pad and pour on it a little of the mixture. Now rub evenly, and with a circular motion, the part of the negative you wish to reduce. Watch your rag, and before it gets too dirty change to a clean part of it. Also watch your negative, and when you think it would stand just a little more reduction, wipe off all the superfluous mixture, using plenty of clean rag for the purpose, and take a proof print. Bear in mind that, if not carried far enough, you can always go a little further with the process, but that once you have gone too far there is no remedy. Do not be niggardly either with rag or mixture; for a too dry and dirty rag is more liable to scratch than a clean, well-moistened one. I have heard this reducer charged with "pitting" a negative; but if this ever occurs it can only be the result of slovenly work; for when properly finished there should not be a particle of the mixture left on the film. Any cases of this so-called "pitting" that have been brought to my notice I have found to be due to small particles of the reducer left on the film; and which were easily removed by a little careful rubbing.

Owing to comparatively recent introductions, it is possible to divide chemical reducers into three classes, viz.: Those which work evenly over the plate and neither increase nor reduce contrast; secondly, those which reduce contrast; and thirdly, those which increase it. An old and good method of the first class is that known as the iodine method, the solution for which is composed of potassium cyanide, 15 grains; water, 1 ounce. Take sufficient of this to well cover the plate, and add to it a few drops of a saturated solution of iodine in alcohol. Remember that, although potassium cyanide is of itself a reducer, the iodine is by far the more active element in the combination, and care should be taken not to add it to the solution while in contact with the plate, or local action will take place and probably spoil the negative. The iodine being added cautiously, this reducer works slowly, evenly, and cleanly. There is no eating away of the fine shadow detail, nor is there the slightest tendency to stain. For the removal of a general fog veil from a negative it is unique, and, diluted to about half the strength given, it is an excellent means of reducing an over printed or over developed bromide print. It should not, however, be used for *local* reduction of a bromide print which has subsequently to be toned. The final washing of the plate or print must be thorough.

A reducer of the second class is the now well-known persulphate of ammonium. I look upon this as one of the most useful salts that have been introduced to the photographic public of late years, but unfortunately its action is inclined to be erratic.

There is no doubt that the best time to use it is immediately after the final washing of the negative, and before it has been allowed to dry. Failing this, the negative must be thoroughly soaked in water; for, above all things, it is necessary that the negative be thoroughly and uniformly wet before this reducer is applied. In treating old negatives it is advisable to give them a thorough cleaning in the ammonia bath, to which I referred at the commencement of my paper, followed by a prolonged soaking in water. As a matter of fact this treatment will do no harm whether the negatives be old or new. The negative should be carefully examined for fog and any traces of it removed; for it is one of the peculiarities of this reducer that it has a great tendency to leave fog alone, and to this fact is due, in my opinion, some of its apparently irregular action. I have used this reducer ever since its introduction, and perhaps a few further hints may not be out of place.

It is far better to err on the side of a weak bath than on a strong one, and in this connection I find that different makes of the salt are by no means uniform, and that what would be a weak bath with one make would be a fairly strong one with another. The tabloids of Burroughs, Wellcome & Co. I have found both uniform and convenient, and for a long time I have used nothing else. For general work I use one tabloid to an ounce and a half or two ounces of water. If this is found too weak the bath is easily strengthened by the addition of another tabloid, or even a portion of one. Care should be taken that the salt is completely dissolved before applying the solution to the plate, as if any undissolved particles settle on it, they invariably cause very ugly star-like markings on the plate, which are practically impossible to get rid of. This precaution applies, of course, to any make of the salt.

The careful addition of a few drops of sulphuric acid to the bath undoubtedly has the effect of making it more regular in its action. This reducer acts slowly at first, but soon quickens. The dish should be gently rocked, and the action carefully watched. When on looking through the plate it appears to be sufficiently reduced, it should be quickly placed in a 10 per cent. solution of soda sulphite, which at once stops further action. The plate should not be removed from the sulphite solution too soon, five minutes being the minimum. As in the case of the previous reducer, it is of course advisable not to go too far, as the process can be repeated if necessary; but should one go just a little too far the application of one of the intensification methods will frequently restore the negative. Some workers recommend that, in addition to the sulphite bath, the plate, after a few minutes washing, be placed in a clean hypo. bath for five minutes or so. The final washing in either case must be thorough.

The sample stereo negatives I show were reduced with tabloids, using, however, a bath of from six to eight times the normal strength with a liberal addition of sulphuric acid. I think you will admit, on inspection of the unreduced halves of these negatives, that they were hopeless looking things to start with, and yet quite presentable prints can now be got from the reduced halves of the negatives.

For those who prefer stock solutions we are indebted to Mr. H. W. Bennett, F.R.P.S., in *Photography* for December 11, 1906, for an excellent working formula for this, viz.:

Ammonium persulphate	480 grains.
Soda sulphite	96 grains.
Sulphuric acid	48 minims.
Water	10 ounces.

This keeps indefinitely. For use take one part stock solution and add nine parts of water. When the plate is sufficiently reduced, rinse well under the tap and place in fresh clean hypo of the ordinary strength for plates. I have treated some very old negatives with this bath, and with excellent results.

Another reducer, a comparatively recent introduction, the makers of which claim for it a similar selective action on the high lights of a negative to that possessed by ammonium persulphate, is known by the name of sanzol. It is a heavyish yellow powder, which dissolves fairly well in water. The dose, as recommended by the makers, is two grains of the salt to an ounce of water, to which is added fourteen drops of pure nitric acid. The solution is poured over the plate, and the dish well rocked until the plate is sufficiently reduced, when it should be placed in a bath consisting of fourteen drops of 880° ammonia to the ounce of water, in order to clear it. Allow it to remain in this bath for three minutes, and then give a final wash for fifteen minutes in running water. My experience of this ammonia bath is that it causes frilling of the plate, and that it is better to discard it altogether, or, at any rate, not to apply it until some of the acid has been washed out of the plate. The results I have been able to obtain with this reducer are certainly encouraging, and as my experience so far has only been with plates, I look forward to further experiment with it in connection with bromide and gaslight papers, for treatment of which it is also recommended by the makers. It appears to me to show much the same tendency to neglect local fog as does ammonium persulphate, and among the samples of its work which I show is one very good example of this.

As in the previous case, I strongly advise the thorough soaking of the plate before applying this reducer, and I also recommend the use of a soft camel-hair mop instead of rocking the plate. A heavy sediment or scum settles on the plate, which is much easier kept moving with a mop.

For the negatives treated by this and the previous method, I am indebted to a friend, a stereo-worker, who kindly allowed me to take the pick of his waste box. I think it will be admitted that, in most cases, a marked improvement has been made, well illustrating the powers of these two reducers. The negatives were certainly not of a class that one would care to get many of.

Probably the best known reducer of any, to present-day workers at least, belongs to the third class and is known as Farmer's ferricyanide and hypo reducer. It undoubtedly has a great affinity for the shadow detail of a negative, or the high lights of a bromide print, but the extent to which this affinity is manifested depends greatly on the strength of the bath used. A very common mistake is to use a bath far too strong, when anything approaching control of it is lost. Most workers have their own pet way of working this reducer, and so long as the foregoing is avoided, it really does not appear to matter much how it is used. One excellent way is to make up a fresh clean 10 per cent. solution of hypo and also a small quantity of a saturated solution of potassium ferricyanide (red prussiate of potash). Take, say, 2½ ounces of the hypo for a half plate negative, and if the negative has not been previously soaked, pour this over the plate and allow it to remain for ten minutes or so. Then pour off the hypo and add to it not more than six drops of the ferricyanide. Pour this over the plate and watch the result, and if no action takes place in three or four minutes remove the plate from the dish and add two or three drops of the ferricyanide to the solution, rock the dish a little and then replace the plate in it. Repeat the process until the plate is not quite sufficiently reduced, as the action will continue for a little, and then place it quickly to wash in running water. The cyanide must on no account be added to the solution while in contact with the plate, or local action may take place and spoil it.

Use as little of the ferricyanide as possible, as there is a tendency with some brands of plates and papers to yellow stain. Should this occur place the negative, or print, in a 10 per cent. solution of soda sulphite, which will usually remove it. If this fails, a 5 per cent. solution of metabisulphite of potassium may be tried. These remedies should be used before the negative, or print, has been allowed to dry, the stain being much easier to remove at this stage. This, gentlemen, completes my paper, and in conclusion I would say that while I think that every photographer should aim at producing such negatives as do not need recourse to any of these methods, I still contend that a knowledge of some, at least, of them places in his hands a power which may save him many negatives; for we most of us know only too well that perfect exposure and development are not always possible.

ORIGINAL METHODS OF TONING DEVELOPED PHOTOGRAPHIC PRINTS.

By Milton B. Punnett.

The desire to obtain colors other than those given by development *per se* has led the manufacturers and users of bromide and so-called gaslight papers to resort to different methods. Of the many methods used, the one that has found the greatest application is the so-called sulphide method, of which the Velox redeveloper may be taken as a good example. About twelve years ago the writer recommended in one of the photographic magazines a similar method for obtaining sepia colors on lantern slides. Sulphide tones properly made are permanent. Sufficient time has elapsed since their introduction to thoroughly prove this. Facility of production is also in their favor. The tones are, however, not very varied, nearly always being some shade of sepia. Experiments to obtain some other permanent sulphide tone were made by the writer with what appeared to him to be a fair degree of success. It was found when finished prints made on Velox or Nepera bromide paper (I mention these papers because my experiments were confined to them) were immersed in a solution of ammonium sulphocyanate and sodium sulphide, a good purplish tone, very often equal to a gold tone on printing-out paper, was obtained.

The following formula has proved the most satisfactory of any tried:

A.

Ammonium sulphocyanate..........	8 ounces
Water to make.....................	16 ounces (fluid)

B.

Sodium sulphide (crystals)..........	½ ounce
Water.	3 ounces

Following are condensed instructions for its use:

Bath No. 1.

Solution A.	1 ounce
Water.	3 ounces
Solution B.	1 drachm

Mix just before toning.

Immerse the fixed and washed (and preferably dried) print. The toning action begins almost immediately, ranging through the purple tones first and then into the sepias.

Allow the print to remain in the toner till the desired color is reached, then wash fifteen minutes in running water and dry as usual.

With the bath at 70 deg. to 80 deg. F., prints will tone in from fifteen to forty minutes; at 90 deg. to 100 deg. F. five to fifteen minutes will suffice, but it is not advisable to use the bath at a higher temperature than 100 deg. F., owing to its softening action on the film.

Prints developed with Velox N. A. developer tone quicker than prints developed with ordinary developer.

The rapidity of the toning may also be increased by adding more of solution B, but not more than one drachm should be added to the original solution at one time, as this would render the bath too alkaline and soften the film.

It works best when freshly mixed, and after forty minutes or so more B solution may be added.

The old bath may be kept for future toning, but before use it should be filtered or decanted to remove the white precipitate formed, and fresh B solution added, but it should be discarded when it becomes so alkaline as to affect the film.

It will be found that the toning is influenced somewhat by the character of the negative used, different degrees of density in the negative affecting the silver deposit on the print and the subsequent action of the toning solution.

It will also appear that matt papers tone more readily than the glossy, and that purple tones are easiest secured on glossy papers.

It must be confessed that the laws governing the action of this bath are not as thoroughly known as could be desired. Sometimes it will work quite rapidly, and again under apparently the same conditions it works much slower.

Further experiments have shown that its certainty of action could be greatly improved by mixing with it hypo alum toning solution, made according to the following formula:

C.

Hypo.	10 ounces
Water.	50 ounces
Heat to boiling and add	
Powdered common alum	2 ounces

Allow to stand until cold. It improves by standing.

Bath No. 2.

A.	½ ounce
C.	½ ounce
Water.	3 ounces
B.	1 drachm

When B is added the solution is clouded by the precipitated aluminum hydroxide. This precipitate does not interfere with the toning action.

This latter bath (No. 2) yields tones equal to and quite often superior to the former bath (No. 1).

It also smells more strongly of hydrogen sulphide, and it is not advisable to use it where the ventilation is poor. As its action ceases, more of B can be added.

The latter bath has also better lasting qualities. I have known it to tone without adding an additional quantity of B after it has stood over night.

AS A PRELIMINARY BATH.

Prints from some negatives when bleached and redeveloped with sulphide solution sometimes incline more to the yellow than is desirable. Having ascertained this fact, colder tones can be obtained on subsequent prints to be toned by using bath No. 1 as a preliminary bath. How long the print should remain in bath No. 1 cannot be stated with exactness, as there are several factors to be taken into consideration; chief among these are, 1, how much the color given by the bleach and redeveloping method differs from the desired color; 2, how fresh bath No. 1 is. The fresher the bath, the quicker it works. Other things being equal, the longer the print remains in bath No. 1 the colder the tone. In a freshly-prepared bath at the ordinary temperature, even fifteen seconds is enough to effect a change in color in the finished print.

As a general thing, any immersion, even one falling far short of the time necessary to produce a visible effect, is quickly made apparent by the print refusing to bleach as much as it would have done were it untreated when placed in the bleaching solution.

Prints should be well washed before placing in bleaching solution, and should remain in it from five to ten minutes or until it is certain that the bleaching is completed.

After bleaching, prints should be rinsed free from bleaching solution and redeveloped as recommended in the Velox redeveloper instruction.

What chemical reactions take place in what I would call the sulphide sulphocyanate method of toning I have not investigated far enough to state.

However, hydrogen sulphide is released, and this in its nascent condition no doubt has power enough to attack the silver of the image. It is also certain that other reactions have an effect, for if the ammonium sulphocyanate is replaced by an equal weight of the potassium salt, the toning action is *very* much slower.

To the question, Why does this method give a different color from that obtained by simple bleaching and redeveloping with sulphide solution? it might be answered, Because the conversion of the silver is not so complete as in the latter process. In reply would say that it would be hard to imagine the colors obtained on some prints as resulting from a combination of sepia and black.

As they are, the processes described are practical, but there is room for improvement.—*Scientific American.*

The best hypo eliminator is water, and plenty of it.

The more perfectly plates and papers are fixed, the more easily is the hypo washed out. It is as well to use clean and strong fixing baths and leave plates and papers therein for at least ten miutes after they seem fixed.

"ART PRINCIPLES IN PORTRAIT PHOTOGRAPHY"—A REVIEW

By F. Dundas Todd.

In writing for this magazine I know that I am addressing a very large number of people who have liked to hear from me on photographic subjects once a month for a considerable length of time in the pages of the *Photo Beacon.* On the other hand, there are undoubtedly a very large number who have never been in touch with me, and to the latter I want them to feel that I am standing face to face with them and proposing that we ought to get acquainted. "How do you do?" I am glad to know you and sincerely hope that from now on we will get along famously and that you will not feel too much jarred over some of the things that I may say, because if I did not think I was right I would not say them. Also please remember that every one of you is at perfect liberty to speak your mind just as plainly to me as I will ever do to you, and I will guarantee for my part that I will not feel even the least bit nettled, because I have reached the happy stage of life where I hold the opinion that after all there is nothing in this world worth getting angry about. Besides, getting mad spoils one's digestion, and I am careful of my alimentary machinery.

As I write there lies before me a rather ambitious volume entitled "Art Principles in Portrait Photography," by Otto Walter Beck, which brings up early photographic recollections and possibly a brief relation of them may be interesting to those of my readers who have not had such opportunities as have come to me to wander round and meet people.

In the end of August, 1897, I was with Mr. James Inglis in attendance upon the Ohio Convention which was held that year in the city of Columbus. In many ways it was a very interesting meeting and the liveliest episode of the convention centered round Mr. Beck. He was one of the first artists to lecture before a gathering of photographers, and I remember I listened to his address with very great interest. He labored at that time under the disadvantage of not knowing very much, if anything, of the conditions and aims of professional portrait photographers and it was evident that he was feeling his way into what was an unknown territory both to him and his hearers. I realized at once the fact that he had very clear and definite ideas that he wished to place before his hearers, but being ignorant of how little they knew had great difficulty in getting into close touch with them. From the photographers' standpoint his address was not then considered a success, but Mr. Beck after that got considerable experience in convention lecturing and as he got in closer touch with photographers he developed into a very excellent, practical and clear speaker, and undoubtedly has done a vast amount of good toward furthering the art of professional photography.

It was not, however, round his lecture that the excitement arose, but over his decision in the amateur class. Here he awarded the first prize to one who has now become famous in the photographic world, Clarence H. White, of Newark, Ohio. Mr. White's work was so radically different from anything that photographers had ever seen that at once loud-voiced protests were ringing through the hall and I remember that over a score of them came hurrying into a room where Mr. Inglis and I were explaining to a small crowd our ideas of portraiture by flashlight and we were suddenly interrupted by almost every one demanding our opinion of Mr. Beck's decision. We knew nothing of it, and I remember James Inglis turned round to the crowd and very calmly told them that it was their business and duty to accept without protest the decision of the judge that they had seen fit to put over them. They retorted, "But have you seen the prize picture?" On learning that he had not, they caught the two of us, and without ceremony hustled us in front of the bone of contention and demanded what we thought of it. Mr. Inglis was nothing if not thorough and on seeing how unorthodox this prize portrait was, in his opinion at least, he raised his voice and was soon the loudest and most vehement of all the protestors. The ludicrous side of the whole proposition tickled my fancy and I remember dropping into a chair and laughing until my sides ached.

I would like to see the same old crowd gathered before a similar picture these days and I think it would have behaved itself with more decorum and view the print rather with inquiring eyes than with protesting ones.

I have just concluded reading for the first time Mr. Beck's book. I began it as a duty, but almost from the start I found it to be a real pleasure, and I have no hesitation in saying that it is by far the best book on art principles that has been presented to the professional photographer at any time.

When working for pictorial effects the photographer has to keep three things in his mind—lines, spacing and value. Of recent years a very large number of men have grasped the first two propositions fairly well, but the third is to most a sealed book. For proof of this one has only to glance at the character of the backgrounds that one finds in the average run of portraits. It is evident that the ordinary photographer really did not have a definite idea in his mind as to what purpose the background he used was intended to serve. Routine said to him that he must use a background, therefore a background was used. Fashion sometimes dictates a black background, or it may be a white, or more awful still, it may be one on which the scenic artist has portrayed vague conceptions that are like nothing in the heavens above, the earth beneath or the waters under the earth. I have often wondered how many drinks it was necessary for a background painter to imbibe before he could see the funny forms that used to be outlined on the backgrounds of our best studios not so many years ago, and which still linger in the studios of those photographers who never go to conventions or read photographic journals. Fashion having dictated a certain kind of background, that particular background is used on all occasions until the fashion changes.

Gentle reader, did you ever realize what fashion is? It is simply a dictation of styles by a few not necessarily possessed of taste to the great multitude who presumably possess no taste at all. Just look at the clothes of the first dozen men or women that you meet, consider the arrangement from a purely pictorial standpoint and you will see what I mean.

It is to the credit of Mr. Beck that in this book he shows how thoroughly he understands the value of the background and devotes very considerable space and many illustrations to an elucidation of the principles that should govern its use. He is no admirer of the ready-made background and his examples make it very plain that it is a hindrance in pictorial portraiture. This portion of his book is to my mind worth all that is charged for it.

I might go on indefinitely telling of the scope of this notable book, but I think I have said enough to tempt every reader who is at all interested in pictorial photography to invest in a copy and to study it thoroughly.

Let me conclude by quoting a few salient sentences that will come with a thud to many who believe that art is essentially a transcript of nature. Mr. Beck truly says: "Nature is never art, nor does nature as a whole ever affect us as art. In art we are dealing strictly with the mental and emotional faculties more or less developed in each individual." Again, "nature in itself has nothing to do with art; it is only the quarry, the reservoir out of which material for art can be taken."

Readers' Contributions.

THE DELUSIVE SNAPSHOT.

By Olivia T. Closson.

This warning is for the ignoramus only; he who, in blissful unconcern, takes unto himself a kodak and blithely starts on the broad and easy road of snapshots that leads to destruction, never realizing the responsibility entailed by the possession of a camera until he rouses up to find himself surrounded by a wreck of wasted time, plates, papers and chemicals and with a collection of horrors in the place of pictures. How grateful would I have been had a voice been raised in warning when I began my downward career, led on by the alluring will o' the wisp "you press the button and we do the rest." It is in the hope of saving others from having to retrace so painful a way that I cry, "Don't, as you value your time, your success, your ambitions, don't take a snapshot until you have graduated from the ignoramus class;" for, paradoxical as it may seem, snapshots are only for the skilled worker. Avoid them as you would the Evil One, for the wages of this sin are wasted energy, wasted opportunities, wasted money, with no experience to atone for the loss. In my humble opinion this is the best way to start: First, don't worry yourself with thinking that a more elaborate camera would give you better results. Of course, it would, but not until the most has been made of the simple one you have. So, having learned how to work it from the accompanying book of instructions, buy a Camera and Darkroom or Photo Beacon exposure table, read it through carefully, then go out and make a series of *time* exposures according to the table, taking care to have the camera on a firm support. Use different stops on the same view, getting as great a variety as your camera will permit, and make a careful record of the conditions governing each exposure. At this stage don't attempt more than exposure. Have the negatives developed and printed at a reliable place, with the understanding that they are to be treated as if the exposure was normal, which will ensure their being returned with all their faults staring you in the face, so that they can teach you something. Then buy a book on photography for beginners, another on simple composition, some copies of good photographs—they can be found in any photographic magazine—and, if possible, a good negative with which to compare yours. Then with these aids, sit down with your first set of negatives and prints and study your work carefully and thoroughly detail by detail; find out each good point, with the why and wherefore of it; each bad point and what should have been done to avoid it. Don't take another photograph until you have learned all the first set can teach you. Find out as far as you are able wherein your work differs from the good negative and photographs, with the reasons for that difference. Better spend a month on the production of one good picture than take fifty without stopping to learn anything from them. Then, with the knowledge gained, go out and try again. When you have learned something in this way about exposure, lighting and simple composition, shoulder another burden. Begin to develop your negatives, and if you are wise you will use tank development, for that forces you to expose correctly, and eliminates experiments for which you are not yet ready. Having learned to develop, take up printing, one paper at a time. Don't waste energy now in learning how to doctor a poor negative; if it is too poor to make a good print put it aside for the present, the fancy frills can be taken up later. One secret of success is, never take a second set of pictures until you have learned all that the first can teach, keeping a notebook and a careful record of each exposure. Another secret is, don't be deluded by the praise of your admiring friends, rather believe the cruel editor of your chosen magazine when he says bluntly: "You haven't taken a picture, you have merely wasted a plate." Later on you will admit the truth of his statement. The third and last is contained in this saying of Josh Billings: "Konsider the postage stamp, my son. Its usefulness lies in its ability to stick to one thing until it gets thar."

PHOTOGRAPHY FOR THE PRESS.

Press photography, lucrative and interesting, is a branch of work which every amateur who has gained a fair knowledge of his camera can indulge in. There are thousands of amateurs in the country who have in their albums pictures which the newspapers, trade journals and illustrated weeklies would be glad to use and pay for, but they are never sold because the possessors do not understand the market for them.

Several books on press photography have been written, but have failed of their greatest purpose, as they treated the subject from a professional rather than an amateur standpoint. The amateur cannot leave his regular occupation to race to the scene of fires, railroad accidents and other things which form a large part of the professional press photographers' work. These the big dailies use constantly, and the amateur has but a slight chance of selling pictures of this character unless they are especially good or unique and something that the professional man has not been able to get. It is the feature pictures that the amateur must handle.

The gift of a certain news sense will help the beginner in this work to a great extent. To see the news possibilities in a subject is of greatest importance, but this faculty can be in a measure acquired. By watching the illustrated weeklies and trade journals the photographer will soon learn just what pictures to send. At first glance it would seem that there is nothing in your locality to take that would stand any chance of sale. Look about you and watch the local papers. Is there a story some day about an old settler celebrating his 100th birthday anniversary? That is good material for the weekly newspapers which circulate in the rural districts. In this case it is best to get a photograph of the old man instead of making a picture yourself, as it will probably be more suited to the needs of the art room than any picture you could take with a hand camera. Such a picture with possibly a hundred words of descriptive matter would find a ready sale.

The writer has sold a number of pictures simply by being able to realize through daily newspaper training that they were human interest pictures. The story in them was of human emotion that is felt by everyone, and consequently would interest others than in the locality where the picture was taken. Among the pictures was one of a monument erected over the grave of a slave stealer in Civil War times. It would have been used by any illustrated weekly newspaper, but it was first submitted and sold to a trade journal for monument dealers. Now the editor of this paper wanted that picture, not because it was especially notable as an example of the monument makers' art, but because it was unique in being over the grave of a man with an interesting history. This is the argument in favor of the picture which would be considered by any editor, but added to this in the present case was the fact that it was a monument and that the readers of the monument journal were interested in all kinds of monuments and especially those of unique appearance, construction or association.

Another trade journal picture which would have been bought by the weekly was that of a hermit trapper sold to a trade magazine read by fur dealers. The same argument and course in reasoning that actuated the sale of the monument picture holds good in this case. A picture of the first statue of the late President McKinley was also sold to a monument magazine.

But, says the reader, there are no statues or old trappers in my locality. Perhaps not, but there are things just as good if not better. Perhaps a calf with five legs has been born in your locality. Some one has caught a peculiar and unknown species of fish. Lightning has played one of its many tricks. A boat has been wrecked on the shore near your town. The scene of some historic happening may be near your home or anything in fact that is unique or likely to be of interest to the reading public.

The best way to find out what is wanted is to study every publication you come across that uses illustrations taken from photographs. A short course in this sort of study will soon give you an idea of what is wanted. The market is vast. Boating magazines want pictures of boats and bits of scenery along lakes and rivers. Mechanical magazines want pictures of curious inventions or machines that will have a bearing on modern life, the weekly illustrated sensational papers want pictures of the principals in crimes, out of the ordinary accidents, peculiar people, freaks of any kind, and in general anything out of the ordinary. The out of doors' magazines want pictures of scenery, big catches of fish, animals in the open and people who have achieved some renown in sports afield.

A good field for ideas is the daily papers. Watch them every day. Some day perhaps there will appear a story of a farmer in your county who has had a battle with an eagle, or a little feature yarn about a sparrow building its nest in a pair of discarded trousers hanging in an outhouse, or a man who is building a tomb for himself and thinks that after 500 years he will come forth a prophet. These, or stories like them, are happening every day and will continue to happen. Get pictures of all of them if possible. They will find a ready sale.

In printing pictures for reproduction always use a paper that will give the greatest amount of detail, as much is generally lost in the reproductive process. Prints for half-tone work should be made on one of the printing out papers, as they give the greatest detail. In the order named the writer has found kloro, solio, glossy velox and portrait velox to give the most satisfactory results for this class of work. Usually it is better to send the pictures unmounted, as the art room can then handle them as it sees fit without trouble. Never send blue prints or sepia prints, as they are valueless for this class of work. In all cases put a slight description and your name on the back of every print.

But first of all see that your subject is vitally interesting, as many a bad print has been sold because the subject was so interesting that the editor would rather have a poor picture with his story than none at all.

GLENN A. SOVACOOL.

A LUNCH BOX CAMERA.

The nervy performances and thrilling exploits of press photographers, in making pictures of railroad wrecks, of big fires, of a large crowd, or of a protesting prominent man, are not to be compared with the dangers which confront the snapshot artist in attempting to get pictures of a sacred prayer dance of the Pueblo Indians in New Mexico.

Several years ago, while engaged in newspaper work in the Southwest, I found a ready market among tourists for Indian dance pictures. But to bring a camera within sight of a dance meant a broken camera, and imprisonment or a broken head for the snapshot man.

This was in the days when superstition ruled the Indian heart and soul; before the hands of civilization had commercialized the red man and made him susceptible to the rule of the "Almighty Dollar."

When superstition was his whole life and religion, he called the camera "The Devil in the Box." It caused almost a panic among the Indians to appear on the dance plaza with one of these evil boxes, when the dancers were making frantic efforts to drive away the evil spirits.

But I wanted pictures, and I wanted them bad, because there was money in them for me and I certainly needed the money. I could not afford to have another camera smashed and did not care to go through the experience of confinement again, so I began to scheme and found a way by which I was able to get all the pictures I wanted without being molested. I bought a 3¼ by 3¼ kodak, and wrapped it in a newspaper. On every side, top and bottom, I put a layer of crackers, and over them I wrapped another newspaper. This was done crudely, so as to give it the appearance of a package of lunch. (Many visitors at previous dances had carried such a lunch.) Then I tore holes in the paper over the lens, finder and levers to snap and change films.

With my camera lunch box under my arm I obtained a dozen fine pictures, some of which were the first of their kind ever secured.

Every time I made an exposure it meant handling the package to get ready for another exposure, but I allayed their suspicions by always pulling out several crackers and then eating them as if I was very hungry.

If the dance chiefs had discovered that my package of crackers was a camera, mine would have been a sad fate. I was taking desperate chances, because I was practically alone at the dance and was stationed in the midst of the dancers.

C. L. PANCOAST.

PHOTOGRAPHING CELEBRITIES FOR PUBLICATION.

The first thing for the Press photographer to do (writes Mr. John Everard, in *The Amateur Photographer*) is to secure the portrait of the celebrity, and this should also give some intimation as to the nature of the person's work. If, for instance, the person is of literary fame, the picture may be taken in the study in which the famous works are composed. Should the person be the owner of famous race horses, take him amidst paddock surroundings; if an artist, the studio will furnish a suitable environment; but be particular in securing the latter, it will greatly enhance the value of the photograph. Portraiture under such circumstances is by no means easy, for the surroundings are frequently against the production of good likenesses. In indoor portraiture, the photographer should not aim at securing a vast amount of detail, as well as the celebrity; all that is really necessary is a characteristic portrait and one or two accessories, or a suitable environment. A single lens, or the single combination of an anastigmat, will be found most suitable. Aim at getting the utmost sharpness in the features of your sitter, but everything else may be just out of focus, artistically suggested rather than reproduced with striking conspicuousness.

If much working-up is necessary on the print before the block is made, use matt surface paper.

Press photographs need not be very thoroughly washed. A five minutes' rinse is sufficient for the purpose.

Prints should always be sent flat and unmounted, and stamped addressed wrapper should be enclosed for return if unsuitable.

Editorial Notes and Comments.

In merging with this, the first issue of AMERICAN PHOTOGRAPHY, three other publications, the AMERICAN AMATEUR PHOTOGRAPHER, CAMERA and DARK ROOM and PHOTO BEACON, under one business management, the editors announce that the scope of the magazine will be extended to include all fields of photography—pictorial, professional, scientific and technical.

Departments of special value to beginners will also be conducted, including monthly illustrated and helpful criticism of their work. Competitions will also be regularly undertaken to stimulate and encourage beginners.

Other departments will include illustrated descriptions of new apparatus, particularly as embodied in a monthly digest of patents issued on photographic and allied inventions and improvements.

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Photographers may differ as to the number of plates that may be profitably exposed in one day, but few, I should think, will be disposed to go in for such a wholesale system as the authors of a book recently published with the title of "Three Vagabonds in Friesland," by Simpkin Marshall & Co. Speaking of their work, the authors say, "It is not often that one finds it desirable to expose more than four or five dozen plates in any one day while touring." I should say not, even although the camera, as in this case, was only a 4x5 reflex.

* * *

It is strange that while so much is being said about patents so many writers on photography seem to fail to grasp the very foundation on which the patent law depends. *The Photographic News*, in trying to account for the failure of Col. Stuart Worthly's uranium process, suggests as one reason the probable fact that in patenting it he had kept his thumb on an important part of the process. Now aside from the fact which I well know, that although the Colonel was considerably tainted with commercialism, he was far above such a meanness as while professing to give a method of working to keep any part of it as a secret; he knew well enough just what the writer referred to failed to grasp; that the keeping back of any part of a process in the specification of a patent is the sure and certain way to make that patent void. Those who are foolish enough to draw their own specifications should know that an inventor has no right in his invention to the extent of preventing all working it who can till the Goverment gives them such right. Before doing so the Government makes a bargain with the inventor that his specification shall be so clear and so perfect that on the expiry of the patent any one of average ability can from it carry on the invention.

* * *

"I saw it in print" was wont to be sufficient proof that it was right, but times have changed and in nothing more than in photography is careful editing needed. In one of the May numbers of *The Amateur Photographer*

(London) a writer tells of a way to make use of old negatives, or rather the glass thereof for carbon transparencies. He proposes to make a five per cent. solution of gelatine and a solution of potassium bichromate of the same strength, mix the two solutions and with the mixture coat the thoroughly cleaned glass. The plate so prepared, he says, "will last (meaning keep) indefinitely so any number can be got ready for use as required." It is evident that the writer knows little of carbon printing or he would know that his plates would not be long in becoming insoluble; otherwise his idea is good, as carbon transparencies are very beautiful and very easily made; but fresh plates must be prepared for each batch of printing or coated with a plain solution of gelatine and sensitized just when wanted.

* * *

STRINGENT GERMAN LAW AGAINST SNAPSHOTS.

The snapshot photographer in Germany is threatened with extinction owing to the great risk he will run of being mulcted in heavy fines under an act which has just gone into effect. The right of all persons to the exclusive reproduction of their own portraits or those of their houses or belongings is made absolute, by the new enactment. Permission may be granted by any one to a photographer to take his photograph or that of his landscape or of his cattle or horses, but there is danger ahead for the amateur or professional who snapshots some one or something without previously arming himself with the necessary authorization. Prosecution and punishment may quickly follow. Even when requested by a friend to take a photograph of a room with its contents, which the owner may desire to use as a picture postcard, the danger is still great, for the room may contain pictures, and if these are recognizable in the photograph the photographer is liable to prosecution by the artist.

* * *

TRANSLUCENT PAPER.

The following is recommended for rendering paper translucent:

Powdered resin	4	ounces.
Gum elemi	4	"
Paraffin wax	2	"
Rectified spirits of turpentine................	12	"

Place in a large clean enamelled saucepan, and heat over a fire or gas stove, with constant stirring, until the mixture boils and froths up to fill the pan. Remove from the fire and allow to cool a little, then add another twelve ounces of rectified spirit of turpentine, stir thoroughly, then pour into wide-mouthed bottles, and cork well. In the melting there is a liability for the mixture to catch fire (especially if the stirring is slackened), therefore a close-fitting lid or a flat board large enough to cover the top of the pan should be kept at hand during the melting. To use, lay the prints face downward on clean blotting, and stretch with drawing pins on a board. Use a broad flat brush well charged with the varnish, and with a few sweeps quickly cover the whole back of the print, then allow to dry. If white spots appear give another coat, or even two more coats, of the varnish.

Our Prize Competitions.

AWARDS IN LANDSCAPE COMPETITION.

The landscape competition was a most interesting one and brought forth a large number of entries from all over the country. Some of the prints submitted were mounted, others unmounted. The judging, however, was on the pictures themselves, technical and artistic qualities both being considered. Some of the prints were excellent photographically, but rather poor in composition, while others were very well composed, but badly developed or printed.

As a whole, the grade of work was of a high order of merit and we congratulate our contributors on their generally successful efforts. We presume during these summer days other exposures are being made, and we hope to be able to show good landscapes later on, the results of summer outings.

The first and second prize winner will be awarded a bronze medal. The first prize winner, in addition to the sum of five dollars, will receive a bronze medal with blue ribbon and silver bar. The second prize winner a bronze medal with red ribbon and bronze bar. Those submitting good work, but not sufficiently high to warrant a prize, are accorded honorable mention.

The first prize was awarded to Dr. W. H. Winchester and the second to Jessie B. Dixon. Both pictures are given in this number. Those receiving honorable mention were J. H. Wildt, Wm. L. Bollow, W. H. Daniels, Cora A. Tilden, Chas. V. Weiler, M. A. Yanch and Dr. W. F. Zierath.

We hope to receive other good work for our forthcoming competitions from our readers and subscribers. All pictures should be sent as usual to F. R. Fraprie, 6 Beacon street, Boston, Mass., on or before the date set for the close of the different contests. Pictures awarded prizes or honorable mention may be reproduced, and unsuccessful pictures will be returned if requested.

Future subjects are: For July, Pinhole Pictures. Closes August 1. For August, Animals. For September, Marines, including Views of the Sea or Great Lakes, Shipping, Yachts and Harbor Scenes. For October, Mountains. Also Calendar Competition. For November, Atmospheric Effects, including Fog, Mist, Rainy or Snowy Days, Rainbows, Sundogs, Clouds, etc. For December, Genre. For January, Portraits. For February, Snow Scenes.

Reader, if you have a friend who has a Camera, or who is contemplating the purchase of one, please present him or her with your copy of AMERICAN PHOTOGRAPHY and send us the name and address or your friend's subscription. We will replace your copy and send you a Camera and Dark Room Exposure Note Book, or for the subscription will send you a Photo Beacon Exposure Card and one for your friend.

Our Portfolio.

Prints for criticism in "Our Portfolio," only one at a time and only one each month should be sent to any of the editors whose addresses are given on the title page.

1. H. E. **Stout.**—"Portrait," a lady with a book on her lap as if just laid down for the consideration of some interesting problem; is very good in most respects although the negative is capable of giving a much better print either by more careful printing or on a more suitable paper. Few of our readers indeed have learned how to select the most suitable paper for their negatives, and the subject is well worth studying. The thoughtful expression is well portrayed, and for those who like accessories, the composition or arrangement with the table supporting the figure on the right, balanced by the ferns on the left, will be satisfactory. We, however, would have preferred making the portrait an upright and cutting out both table and ferns. Such a fine figure should be left to itself with nothing to take attention from it.—N.

2. **Francis Baker.**—"Lusk Creek Bridge," only wants the bridge left out to be a good picture, the creek and its banks being admirable, while the bridge taken straight on and without beauty of any kind spoils the appearance. Probably taken from a different point of view something good might have been obtained, but such a bridge running horizontally across the print is never tolerable.—N.

3. **Forman I. Hanna.**—"Lengthening Shadows." A high foreground is an advantage in some cases but in this you have overdone it; five inches of foreground to an inch and a half of sky and foliage is a good deal too much, and all the more so as it is meant to represent snow, but is darker than snow ever was, while the foliage is perfectly black. The snow reduced to three inches and the printing much less deep this might have been an effective picture, but as it is it does not appeal favorably to us.—N.

4. F. M. **Terhune.**—"Mother and Child" is one of the best of such groups that we have seen for many a day and is almost without fault. The child, seated on the mother's lap, is engaged in the study of something in its hand, and the mother, with that loving expression which only a mother can assume, make together a most charming picture, radically different from so many of its kind in which both are made to stare into the camera. We shall have pleasure in reproducing this as an object lesson worthy of careful study.—N.

5. H. E. **Stout.**—The unnamed print is an excellent subject with only two serious faults, the scattering of the figures and the development carried on with a solution too strong in the reducer. Where there are a number of figures they should be concentrated so as to show a common interest; and a weaker developing solution would have given all the detail you have without making both sky and water too white, the sky especially being simply white paper. Here tank development properly timed would have given you a much better result, the weaker solution giving you all detail without making the sky, in the negative, absolutely opaque.—N.

6. C. F. **Fisher.**—"The Intruder," a turkey rushing into a flock of chickens while they are being fed by a boy, is a puzzle as to why it should have been sent for criticism; as except during midnight darkness you never saw surroundings so black. Exerything except the white clothes of the boy and the white feathers of the chickens are simply blackened paper, showing that even the plastigmat at full opening with an exposure of 1-25th of a second was, under the light, a much too short exposure. In such a subject

No. 11. L. J. Munhausen.

No. 5. H. E. Stout.
No. 2. Frances Baker.
No. 1. H. E Stout.

No. 10. L. J. Munhausen.

there is nothing pictorially to criticise, only the photographic technique, and of that we can only say that the light was too weak or the exposure much too short —N.

7. Carl Krebs.—"Drinking Water in Cuba" is just the kind of thing we wish our correspondents would send us when touring in other lands; something that illustrates the manners and customs of the people among whom they sojourn for the time being. In describing the picture the author says: "The illustration shows a common method of drinking water in Cuba. The water is in a jug with two large spouts, one large for filling, the other small and round. The jug is tipped as shown, and the water runs in a stream from the smaller spout into the mouth The mouth is never brought in contact with the spout, and to drink in this way requires considerable experience, the tyro being more likely than not to pour it all over his face and clothing." There is little

No. 7 Carl Krebs
DRINKING WATER IN CUBA.

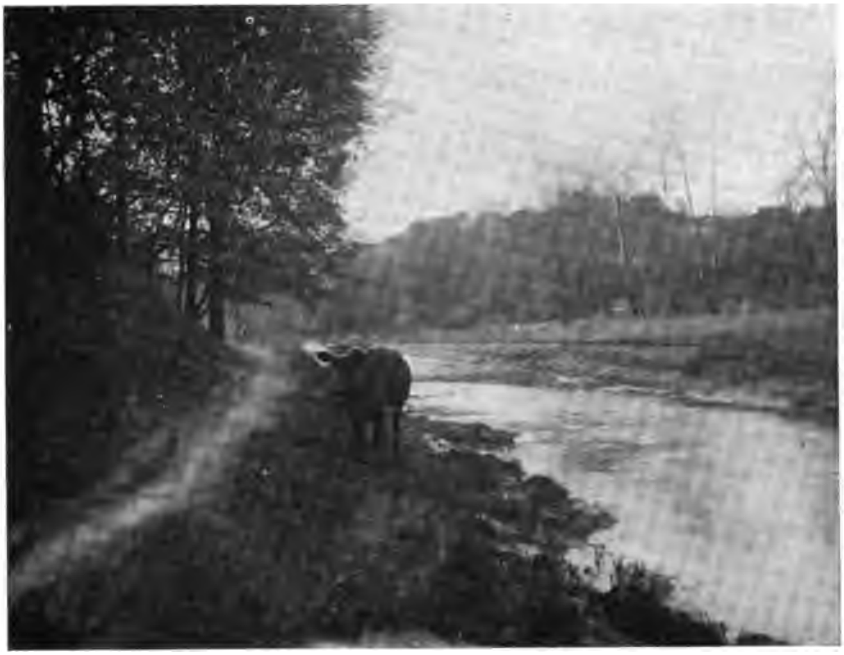
to say about the print from an art point of view, but from the more interesting point, as showing an interesting custom it could hardly have been better, although we think the negative would have given a better print. We may add that an improvement would have been made to have arranged so as to have placed the figure higher in the plate, his head against the sky rather than against the all too high foreground of the composition.—N.

8. **Forman Hanna.**—"In the Woods" is evidently printed from a good negative although we are sure that a much better print could have been gotten from it by printing less deeply and securing a different color. The color is its greatest fault a dirty brown that, to us at least, is far from pleasing. The subject, however, is good, especially the point of light in the distance, although that distance seems far too near. This, of course, is the result of the use of lens of too short focus for the purpose, causing the operator to go too near the subject. You can easily see how greatly the picture would be improved by sending the central luminous part two or three times further away It is an excellent subject, very well photographed; its only fault being a too near point of view, while the color of the print might have been, in our estimation at least, very much better.—N.

9. **H. A. Spengler.**—"In the Back yard," a snap at a boy surrounded by a lot of chickens, is hardly a subject for criticism except to say that it is a fairly good photograph as such snap-shots go, a good deal underexposed and without any claim to either the picturesque or pictorial.—N.

10-11. **L. J. Mulhausen.**—"Patiently Waiting" and "My Dolly." You have made a good beginning, so good that by way of encouragement, we notice the two prints instead of the usual one. Taking the last first, "My Dolly," a girl sitting by a window with her dolly on her lap, is a very decided success both artistically and technically; and the young model has assumed just the right expression, that of motherly interest in the doll. If there is a fault at all it is that of being just a shade too deeply printed, and of that we have a slight doubt. "Patiently Waiting" is also very good with the same slight fault, although the expression is not so expressive as that of the other; and you

No. 13. L. E. Brundage.
FIFTY MILES AN HOUR.



No 12. LANDSCAPE. P. L. HOWARD.

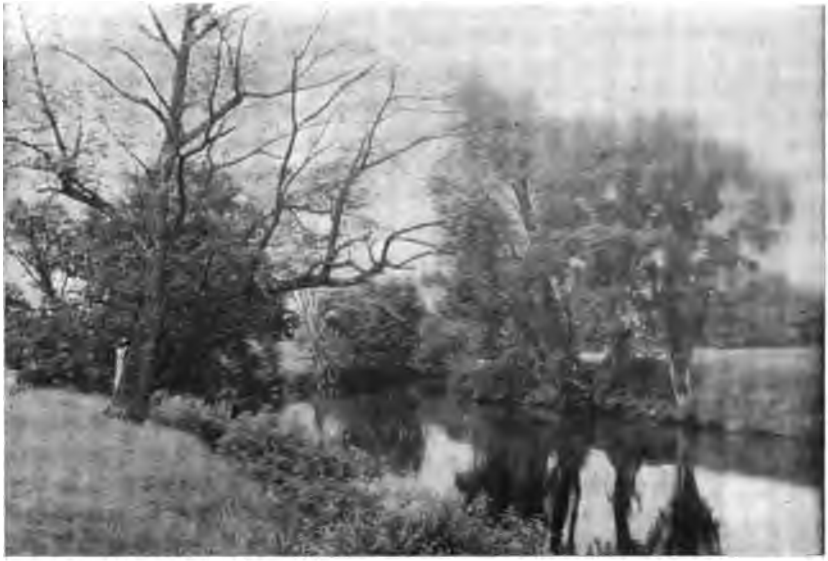
will soon find that you will have to submit even the best of models to suitable training for each subject you attempt. Your experience regarding development is that of every one who aims at high-class work No one can do full justice to the exposures of another or get the full value out of that exposure; and so long as one is content to press the button or indeed expose in any other way and allow some one else to do the rest he will never reach anything near the top of the tree. We shall be pleased to hear from you again and watch your progress, as we are sure you are on the right road.—N.

12. P. L. HOWALD.—"Landscape" is excellent in composition and rendering although slightly deficient in tonal quality The balance would have been better maintained if the cow had been coaxed to move down to the edge of the stream, as if drinking, and this would also have added to the poetic value of the picture.—C.

13. L. E. BRUNDAGE. "Fifty Miles an Hour" does not support the title as there is no suggestion of speed or motion. The lack of color values suggests that the shutter was the swiftest object in action. It is a hard proposition to render a moving train with pictorial effect and at the same time be realistic. The position and surroundings here are conducive to the making of a better picture from a pictorial point of view. Your other print is far better as a subject for a picture and if you had only given sufficient exposure and handled the development of the negative so as to have secured proper detail in the chalky whites and dense shadows, we would have been pleased to have reproduced "Nature's Drinking Fountain" also, with a word or two of praise.—C.

14. S. L. KETCHAM.—"The Old Swimming Hole." In the light of Mr Ketcham's letter, on another page, we will deal gently with this picture from a new reader. His letter intimates that he is not in favor of "fuzzy" pictures and the print he sends bears evidence that he is able to focus well and turn out clean

No. 16. ON THE BANKS OF THE MINNEHAHA. FRANK ROYCE.



No. 14. S. L. KETCHAM.

THE OLD SWIMMING HOLE.

work tastefully mounted. But if he had been a reader of the AMERICAN AMATEUR PHOTOGRAPHER he would have long ago realized that a picture to be even a simple transcript of nature requires more than careful focusing. The lack of tone values in his otherwise charming landscape is its one shortcoming. In other words, there is too much pure white paper, which, by a stretch of imagination, does duty for water and sky. The quality of the work otherwise shows that he is technician enough to know how to overcome this defect; but then this way of suggesting something which is unseen may be the realist's substitute for the poetic fancy of the fuzzygraphist or impressionist.—C.

15. J. W—— P——.—"The Brook" is very much below your own standard of work. The confusing mixture of lights and shadows is what first jars, then there is no attempt to render correct tone values. We notice that you have endeavored to suggest atmosphere or distance by separating the top half of the print from the negative during the printing process either by inserting celluloid or leaving half the printing frame unclamped; but the effect is unnatural. Altogether we feel disappointed in the print, knowing that you can do better.—C.

16. FRANK ROYCE sends twelve prints—too many for criticism at one time, but taken as a whole they serve to show that he is fertile in ideas as well as in methods of work. "On the Banks of the Minnehaha," a landscape (reproduced), is in our estimation the best picture of the lot. The dark sepia of the original print is very suitable to the scene, but a color that does not reproduce well; hence the reproduction does not do justice to the original. "Sandy Hill" is a subject hardly worth a plate, at any rate the rendering you have given it is neither good pictorial nor good record photography. "Undecided" and "Just Jack" are too posey, both badly out of focus. These two are the weakest of your genre pictures and show that you require to study grouping and the setting of the scene. Your models have acted their parts fairly well. (The others in our next.)—C.

17. HARRY M. BIGGIN.—"Tootsie and I," a snap-shot of a girl holding a kitten in her arms, is really of very good photo-

No. 18 L. MOLLER.
SMOKE AND FLAMES.

graphic quality and as a record may be very satisfactory; but a pictorial possibility has been wasted. Should you wish to excel in the artistic quality of your work study the work of our leading photographers and you will soon see for yourself many defects in the awkward posing of this group that you will avoid in future.—B.

18. **L. Moller**, a new recruit, sends three prints which, as far as general quality is concerned, are superior to the work of much older readers. "Smoke and Flames" is a very interesting record and a rare picture to obtain. "A Cross by the Wayside" shows no wayside and, although a photograph of almost perfect technique it lacks pictorial quality. "The Picnic' is about as good as any we get of this prolific subject, but as a rule its beauty is spoiled by the inevitable one man who aims to be the most conspicuous and who in this case, manages it so that his form covers serveral acres of the country beyond.

19. **Mrs. C. B. Williams.**—"Scene on the Pacific Coast" is a very satisfactory record and the composition is well handled, but the exposure was too short As you will see, only the most distant objects are rendered in anything like true color values, the foreground being only a dark mass. Through some error in judgment, which you should have attended to at once, your camera back is out of parallel with the lens. One side of the picture is in correct focus while the other is badly blurred.

20. **Wm. F. Chouinard.**—"A Puget Sound Sunset" is a rarely good rendering of a difficult subject. The print is full of quality and is reproduced as an object lesson in tone values. If the composition were equally good it would be a perfect picture as far as it is possible to do justice to such a subject in monochrome, but the repetition of straight lines is too strongly marked and too geometrical About a half inch trimmed from the bottom would also be an improvement, placing the horizon line below the center.

21. **Jesse Cohen.**—"Waterfall." The print submitted to our Landscape Competition is something that nearly everyone likes to take, but the results are not as pleasing as one might think. Falling water is always fascinating to view, but it is very difficult to show the effect in a photograph. It generally looks like something solid, rather than transparent water, from which a mist is likely to arise. The house above the waterfall, evidently used for a manufacturing plant, is not a thing of beauty. It might be interesting to the owner of the house, and have local interest, but for a picture to be viewed by other people, and from which there is to be derived some pleasure, there is absolutely no interest. Technically it is excellent; a bit too hard, but well adapted for what we might call record work. I would suggest, if you are interested in waterfalls, that you try this again and leave out or trim out the house, and see if you cannot get a little more value in the water.—F.

22. **H. C. Brown.**—Your portrait is very good in many respects. The head is particularly well rendered and shows good modeling and that is a very strong point in portrait work. The distracting background spoils the picture, a plain wall or screen, eliminating the lace curtains and window, would make it look much better. The chair, too, is perhaps a trifle conspicuous.—F.

WM F. CHOUINARD

A PUGET SOUND SUNSET.

23. H. W. DANIELS.—"November Morning" is a dainty print and is technically good. It might be criticised for having poor composition. The stream leads the eye towards the middle distance, but the white spot—the house at the right—is another point of interest and distracts the attention. From a different viewpoint it is quite possible you can get something excellent. Try it again.—F.

Our Table.

Books ror review, apparatus and materials for examination and report, should be sent to any of the editors whose addresses are given on the title page.

CAMERA WORK for July, 1907, No. 19 This may be said to be a J. Craig Annan number, five of its six illustrations being by that well-known author, the other being by Steichen.

While we have often had to confess that some of the illustrations in this superexcellent magazine were of a higher class than the extent of our culture enabled us to thoroughly appreciate, the five pictures by Annan are pictures after our own heart, every one appealing to us more than the other and making it impossible to say which we like best, each in our opinion being worth far more than the cost of the magazine many times over. Steichen's "Pastoral Moonlight" is also a wonderful picture. The negative, taken on a film in a kodak, was enlarged on bromide paper and colored a greenish blue and yellow, locally, by a method of his own, carried off one of the awards in a recent Kodak competition, and the reproduction is simply charming.

The reading matter is, as usual, of considerable interest. but we must find a little fault with J. M. Bowles for a very common error in the last paragraph of his article on certain shortcomings in modern photography. Referring, presumably, to the exhibition of the "Hill and Adamson" pictures, in the Little Galleries, he characterizes them as "a series of portraits taken in England in 1860." It is bad enough when England is employed as synonymous with Great Britain, but very much worse when it is substituted for Scotland, and as with thousands of others we are proud of being Scotch, we look, not with anger, but with pity for the man who is ignorant enough not to know the difference between the two countries. Robert Demachy writes interestingly on "The Straight Print"; and Dallett Fuguet gives vent to his poetic fancies in a pleasing article on "Pisgah." In "Nature or the Mirror," J. Nilsen Laurvik comes down heavy, too heavy we think, on the painters, who, according to him, give us too little of the former and too much of the latter; saying that "nature is no longer reflected truthfuly by these dabblers in pretty trifles. They have long since befogged and polluted with the breath of ancient prejudices and musty ideals the mirror given them in trust, and to-day they would have us believe that nature is only right as reflected in this mirror with which they confuse the vision of the people. To them this mirror is the thing and nature takes a back seat for the moment."

Mr. Stieglitz tells of the increasing interest in the Little Galleries and, as he will spend the Summer abroad, he expects to gather much material with which to continue the interesting and profitable exhibitions; profitable in an educational sense, as the exhibitions are always free to the lovers of photography.

In conclusion we should like to say that the Photo-Secession is doing a great work and hold that all lovers of photography who feel able should assist it in every way they can to carry it on; especially that they should subscribe to this beautiful magazine, assured that in every number they will get far more than the worth of their money.

WITH THE CAMERA.—The monthly circular from The Illinois College of Photography and Photo-Engraving, tells as usual of continued progress, fifteen students having enrolled during the month. The wedding bells, as usual, were once more rung, a student of '95 having returned and carried off one of the ladies of the College City. Families with marriageable daughters might do worse than move to Effingham.

As usual, the circular also tells of visits from former students; of two lady students having opened a studio and finding a rushing business; of a lecture to the students on lenses by one of the Voigtlander representatives; and of a thoroughly successful entertainment given by the Alpha Lambda Kappa Club; and altogether the College seems to be thoroughly successful in all its departments

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"THE PRISM" is the title of a neat little booklet to be issued monthly by the Bausch & Lomb Optical Company. Designed for advertising purposes, it is for free distribution and its main object is to inform the public that the Bausch & Lomb Company make lenses and prisms for every purpose for which they can be employed; that these are made as best they know how; and as they employ the highest skilled experts in their line, therefore their lenses must be second to none The booklet speaks well for the glory of the firm but is not calculated and evidently not intended to be a business bringer.

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THREE VAGABONDS IN FRIESLAND with a Yacht and a Camera, by H. F. Tomalin. With photographic pictures by Arthur Marshall, A. R. I. B. A., F. R. P. S. New York, E. P. Dutton & Co., 1907.

The author of this sumptuous volume has set himself in the title the task of restoring to the word vagabond its original meaning of wanderer, hence the name of the book is rather misleading, because the party traveled in luxury rather than as tramps. The book introduces the reader to one of the most picturesque and least known populations of Europe, a people which lends itself with the utmost readiness to being photographed. In fact, this was one of the party's chiefest troubles. The Dutch children are notoriously the worst mannered in Europe, and are always in front of the camera when they are not wanted. The only time when a village could be photographed without a foreground of staring urchins was when school was in, and this was not always true, for the teacher sometimes desired to inspect the strangers himself and let his brood loose early.

Mr. Marshall, who is one of the well-known pictorialists of England, seems to have been able to overcome this difficulty by silver or stratagem, and the book is adorned with a hundred illustrations of high technical merit and good pictorial quality; certainly a rich harvest for a single short vacation. He would seem to have had need of a yacht to carry his plates, however, as his allowance for a day's exposures was four dozen 4 x 5 plates loaded in magazines, a few more with a changing bag, and a pocket full of roll films.

Besides the exceedingly interesting story of the picturesque lakes, canals and towns traversed, the book contains several appendices with valuable information and advice, photographic and otherwise. It should be in the hands of every photographer who contemplates a European trip, or admires fine genre photographs.

* * *

The American Annual of Photography.

Tennant & Ward, of New York City, advise us that they have taken over the publication of the well-known "American Annual of Photography" from its former owners and are now busy with the preparation of the 1908 volume, which will be edited by John A. Tennant. Good as the "Annual" has been in past years, the new owners desire to make the 1908 issue better than ever—more useful in its information and more attractive in its illustrations. In this they ask the co-operation of all photographers in the shape of articles dealing with photographic experiences or pictorial work of unusual interest. Correspondence or contributions for the "Annual" should be addressed to the Editor of The American Annual, Tennant & Ward, 287 Fourth avenue, New York. As the book is made up during the Summer months, contributors are urged to send their articles or pictures with as little delay as possible.

* * *

Die Bildnis-Photographie, Ein Wegweiser für Fachmänner und Liebhaber, von Fritz Loescher. Zweite umgearbeitete und erweiterte Auflage mit 133 Abbildungen. Berlin, 1907, Verlag von Gustav Schmidt. Price, 5 marks or $1.50.

Three years ago the first edition of this book appeared and received a most gratifying reception from the general public. The edition was entirely exhausted more than a year ago, and the author has spent the intervening time in carefully revising his text and increasing the number of illustrations. The result is a beautiful volume, which can but prove of great interest to all who practice portrait photography, whether or not able to read the text. The principle of contrast is used in choosing the illustrations, showing faults and methods of overcoming them. The great value of the book, however, consists in the excellent series of illustrations by eminent photographers of the whole world, showing the whole tendency of modern portrait photography.

* * *

Deutscher Kamera-Almanach: Jahrbuch der Amateur-Photographie, unter Mitwirkung von bewährten Praktikern herausgegeben von Fritz Loescher. II. Jahrgang 1906. Mit einer Tondrucktafel, 47 Vollbildern und 107 Abbildungen im Text. Berlin, Verlag von Gustav Schmidt, 1906. Price, 3.50 marks or $1.00.

Recently we had occasion to review the third volume of this year book. We have since received the second volume, which, although dated 1906, is as interesting now as when first published. It contains the usual selection of most instructive articles and well selected pictures, and affords an excellent summary of the pictorial progress of the year which it covers.

THE HIGHEST STACK IN AMERICA.

The Eastman Kodak Company send us a cut and the following description of the biggest thing in smoke stacks. Like a gigantic lightning rod, attracting the orders flashed from all over the world, it towers high above the Kodak City and is seen for miles around:

The necessity for this great stack arose from the thoroughness with which we go into details in the manufacture of Kodak Film. To make a perfect film, perfect basic materials are necessary. Experience taught us that the only *sure way* to get these basic materials right was to make them ourselves. We do not buy nitrate of silver; we buy silver bullion and nitrate it ourselves. For this purpose we not only make the nitric acid with which the silver is nitrated, but we go back of that and make the sulphuric acid from which, in combination with nitre, the nitric acid is made. Likewise this nitric acid is used for cutting the cotton used in making the film base.

This stack then is simply typical of the thoroughness—typical of the lengths to which we go in reaching perfection in every department of our film plant. Years of experience, ready access to the formulæ and methods of the best plate makers in the world, special machinery and special buildings at no matter what cost—all these are at the command of our film makers, all of which accounts for the fact that we are years ahead of any competitor in the turning out of film, accounts for the fact that Kodak film is the only film rated by experts as equaling in speed the Seed 27 plate.

But this article was to tell about the stack. The figures are interesting. In the first place, it is 366 feet high, the highest stack in America, and it rests on an octagon foundation which is 23 feet deep to bed rock, is 40 feet across the flat sides of the octagon at base and 30 feet at top. The base contains approximately 23,000 cubic feet of concrete and weighs 1,600 tons. The chimney proper is a round shaft built of hollow radial brick. The outside diameter at the bottom is 28 feet and at the top is 11 feet. The inside diameter at the bottom is 19 feet and at the top 9 feet. It is lined on the inside with acid proof brick and cement 4 inches thick, leaving a two-inch air space. The lining is laid in sections 20 feet high, supported on corbels from the stack. The smoke opening is 6 x 12 feet, providing for 2,400 horse power boilers, and the acid fume inlet, 4 feet by 4 feet, is for sucking away the acid fumes from the chemical departments. The bricks used in stack are radial in shape and have hollow air spaces perforated in them. They are about 5 inches high and 6½-inch face. The length of the brick varies from 10½ inches long to 4½ inches; there being five different lengths used. The stack is provided with a lightning rod having four carbon points and is equipped with an iron ladder on the inside and one outside. The total weight of the stack is about 3,200 tons. The letters "KODAK" on the stack are 7 ft. 3 in. high, and are spaced 9 ft 9 in. center to center, the bottom of the lower K being 204 and top of the top K being 250 ft. above top of foundation.

* * *

FROM BURROUGHS, WELLCOME & CO., London and New York, we have received a copy of Wellcome's Photographic Exposure Record and Diary for 1907. Although this book is mainly compiled for English photographers, yet much of its information is world-wide. Besides the exposure tables there is a diary, exposure record, speed list of plates and films, and a selection of formulæ and tables of weights and measures, etc.—A *multum in parvo.*

* * *

THE ITALIAN LAKES, being the record of pilgrimages to familiar and unfamiliar places of the "lakes of azure, lakes of leisure," together with a description of their quaint towns and villa gardens and the treasures of their art and history. By W. D. McCrackan. L. C. Page & Co. Boston, 1907. Price, $2.00.

In this volume, prepared and printed in the artistic manner characteristic of the gift books of this firm, Mr. McCrackan has continued his rambles in and around the Alps in a most pleasing manner. He takes the reader through the regions about the southern foothills of the Alps, and describes not only the well-known Lakes Maggiore and Como, but also the smaller ones, Orta, Varese and Iseo, as well as magnificent Lake Garda, the largest of all but least known to Americans. The natural beauty and historical importance of this most charming section of Italy are well described, but in an impersonal fashion which almost deprives the book of human interest. The author writes as one aloof and not as describing personal experiences. He touches in the lightest fashion on Lake Lugano, which is at least as attractive and picturesque as either Como or Maggiore, and in the opinion of many travelers is superior to either. The impression of the region, however, which the ordinary reader will get, will make him desire to visit these beautiful regions and plunge into the luxurious foliage of cypress, olive and myrtle, and to hear the glorious song of the lark and the nightingale over the bowery meadows and in the perfumed thickets. The photographs in some instances leave something to be desired, but the reproductions are good and well printed.

* * *

"SEED, FROM WHICH GOOD PICTURES GROW," is the title of the latest booklet issued by the M. A. Seed Dry Plate Company, St. Louis, Mo. Although it only contains 36 pages of text, the information has been boiled down to such a state of concentration that it contains all one really need know to be able to produce good negatives. The booklet is free from your dealer or the Seed Dry Plate Company.

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A descriptive price list and list of stores from which their products may be obtained, which we have received from the Lumiere Company, is evidence that this concern is quietly getting a sure foothold on the American market.

* * *

HAMMER DRY PLATE COMPANY,
St. Louis, Mo.

Gentlemen—Referring to your letter of December 5 in reference to using your plates in tropical Mexico, I beg to say that I returned on March 1 from an extended trip in that country, taking with me ten dozen of your 5 x 7 extra fast plates. With the exception of four or five spoiled plates (due to my own carelessness), every exposure I made in that section resulted in beautiful negatives. This is the first time

I have had such a result in the many trips I have made in that country. The plates were packed in paraffine paper both before and after exposure, brought home and developed here. This is for your information. Yours very truly,

C. V. Cooper.

Portland, Ore., March 18, 1907.

* * *

Prize Contest for Professional Photographers.

For the double purpose of demonstrating the possibilities of photography in advertising and at the same time securing for themselves a series of superior pictures to be used in their Kodak advertising, the Eastman Kodak Company are offering fifteen hundred dollars in cash under very simple conditions.

The contest is for professional photographers only and the first prize will be $1,000 and the second prize $500. Worth striving for! By Jove! Imagine one of these little photographers in a country town, with small capital but big brains, capturing this $1,000. And it is quite possible, for the Eastman Kodak Company have secured an ideal body of judges and the terms of the competition are simple and within reach of all.

The judges are: Col. Marceau and Pirie MacDonald, to decide upon the photographic quality, and the advertising value will be decided by Mr. Spaulding, advertising manager of the *Ladies' Home Journal* and *Saturday Evening Post;* Mr. Wilson, advertising, manager of the *Cosmopolitan*, and Mr. Hazen, advertising manager of the *Century*.

TERMS OF THE COMPETITION.

1. Each picture is to contain a figure or figures and is to be suitable for use as an illustration in advertising the Kodak or the Kodak system of amateur photography.

2. Each entry to consist of three pictures 8 x 10 or larger.

3. *Prints only* are to be sent for competition—not negatives.

4. Prints must be mounted but not framed (Mounts should show about one inch margin.)

5. No competitor will be awarded more than one prize. (This does not prevent a competitor from entering as many pictures, in sets of three, as he may desire.)

6. Due and reasonable care will be taken of all non-winning prints and, barring loss or accident, they will be returned to their owners at our expense, but we assume no responsibility of loss or damage.

7. The negatives from which all prize-winning prints are made are to become the property of the Eastman Kodak Co., and are to be received by it in good order before payment of prize money is made.

8. Contestants who are awarded prizes must also furnish to us the written consent of the subject (in the case of a minor, the written consent of a parent or guardian) to the use of the pictures in such manner as we may see fit in our advertising.

9. All entries should be addressed to

EASTMAN KODAK CO.,
Advertising Dept. Rochester, N. Y.

10. In sending pictures, mark the package plainly, "Photo-Advertising Contest," and in the lower left-hand corner write your own name and address. Then write a letter as follows:

I am sending you to-day by Express (Mail), charges prepaid, ... prints. Please enter in your Photo-Advertising Competition.

Yours truly,

....

11. The name and address of the competitor must be legibly written on a paper and enclosed in a sealed envelope in the same package in which the prints are forwarded. There is to be no writing on prints or mounts.

12. We will promptly acknowledge the receipt of pictures, and when awards are made, will send each competitor a list of prize winners.

13. Only recognized professional photographers conducting a studio will be allowed to compete.

14. This contest will close November 1, 1907.

Society News.

Camera Club of New York.

The last meeting of the club was held on June 7, when the Interchange set of the Portland (Me.) Camera Club and the Trenton (N. J.) Photographic Society slides were exhibited.

Three club print competitions are proposed for the coming season. One in October, 1907, which will be held for portraits of members by members. Prints must be made from negatives subsequent to April 1, 1907. Posing and lighting must be the unassisted operation of the photographer. Spotting and retouching may be done by others. The prize will be awarded by ballot.

A landscape competition, limited strictly to amateurs (those not having practiced photography for monetary gain), is to close December 9, 1907. Ten members must enter this competition to make it effective. Prints are to be mounted and not framed.

A third competition is arranged for non-resident members who have not been awarded a prize for prints by the club prior to April 1, 1907. Each member may enter two prints, which may be mounted; framing is optional. The subjects are landscape; portraiture; genre, or architectural, which will be judged solely on technique. Entries will close March 2, 1908. Awards will be made by a jury of Chas. I. Berg, president of the club; F. Benedict Herzog, lately president; Alfred Stieglitz, Clarence White, Pirie MacDonald.

A silver medal will be given to maker of the prize print; a bronze medal to the maker of the second best print, and the third will receive a mark of commendation. The print committee consists of William E. Wilmerding, Alfred Stieglitz, Willard P. Little.

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Montclair (N. J.) Camera Club.

We are informed that interest in slide-making is increasing among the membership of the club and that an effort will be made to re-enter the American Lantern Slide Interchange next Fall.

* * *

The Photographic Club of Baltimore City.

We learn from the president of this club, Mr. Percy M. Reese, that the Print Interchange, recently inaugurated, is a great source of interest to the members. The plan is to read the criticism on each picture as it is placed on view to the members present, followed by informal discussion. It is stated much useful information in regard to pictorial qualities and what constitutes them, is brought out.

* * *

Jamestown (N. Y.) Camera.

This new club has been recently organized in the locality where the famous "Aristo" paper has been manufactured so many years. The third meeting of the club was held on June 11, when a constitution and by-laws were adopted. The officers elected were: President, Myles B. Nichols; vice-president, John M. Cushman; secretary, John J. Andrews; treasurer, Oliver Starr. A few interesting outings have been made by the members and results will be displayed at future exhibitions. We wish the club abundant success and trust it will be in position before long to enter the American Lantern Slide Exchange.

* * *

Chicago Camera Club.

We visited the Chicago Camera Club a few days ago and found them housed in very comfortable and convenient quarters. Mr. W. C. Kaiser, one of the Board of Directors, kindly showed us the facilities for developing, printing and enlarging. He said that the evenings for criticising prints have been very popular among the members, who seem to be all workers. The club is running a series of one-man shows of the work of their own members and on this occasion the walls were covered with the work of Mr. Geo. C. Elmberger. We must say that it was so uniformly good and yet so varied in character that it had all the appearance of a display of some competitive exhibition, or salon.

The present officers of the club are: F. M. Tuckerman, President; Clarence B. Hale, Secretary and Treasurer; C. J. Spencer, Vice-President; E. W. Thomas, Lantern Slide Director. The Directors are: F. M. Tuckerman, W. C. Kaiser, B. J. Morris, C. J. Spencer, C. B. Hale, C. C. Elmberger, D. H. Brookins.

We were informed that the club membership is closely approaching the limit mark and it is expected that this Fall will bring in the full quota.

Letters to the Editors.

There are Good Pictures and Good Photographs.

American Photographic Pub. Co.:

Gentlemen—In the last issue of the *Photo Beacon* we are informed that hereafter it will be merged with the Amateur Photographer and Camera and Dark Room.

When I first read that I had received the last number of the *Photo Beacon* that would be published, I felt as though someone had suddenly chopped off an ear, but as I continued to read and learned that Mr. Todd was to be associated with the change, I really began to sit up again and take notice.

In order to thoroughly enjoy and profit by the good counsel and rigid criticism which Mr. Todd has so generously dispensed through the columns of the *Photo Beacon*, it was not necessary to always agree with him. He didn't mind a scrap (photographic) once in a while, and he certainly had the courage of his convictions, for, if the truth must be told, Todd usually came under the wire first when it came to an argument.

Some years ago, when the "Fuzzy" craze first came to my notice, I had an opportunty to say things to Todd and I said them. Todd allowed that he liked it and I guess he did. I notice that the "Fuzzy" craze has grown to quite a sizeable infant.

There are some of us, however, who still plod along making pictures which the critics say are *not* pictures, and I am sending you one under separate cover. Though it may not meet with the approval of some of the critics, I'll bet it will remind him of the time when he was a bare-legged boy and used to walk home without his hat to dry his hair so his mother wouldn't know he'd been swimmin'.

Wishing the new publication the best of success, I am,

Very truly yours,
S. L. Ketcham.

Rutland, Vt., June 22, 1907.

It Depends on What We Bring.

Editors American Photography:

Dear Sirs—In reference to your answer to C. W. B.'s criticism of Steichen's "Lady in White" in the May number of the American Amateur Photographer, I wish to add the following: Emerson said it depends on the sensibility of the reader whether or not he shall understand the beautiful poem. You cannot take the uncultured mind to the golden sunset. It is not so much the artist's work but what we have to bring to it, as has been so often reiterated in your "Portfolio" criticisms.

Mr. C. W. B.'s criticism of the "Lady in White" and Fleckenstein's "Portrait Study" are wholly uncalled for. Steichen's portrait is the very essence of combined art and poetry. Every line is grace. The hand is especially fine. The pose is not alone poetic but mental. All of

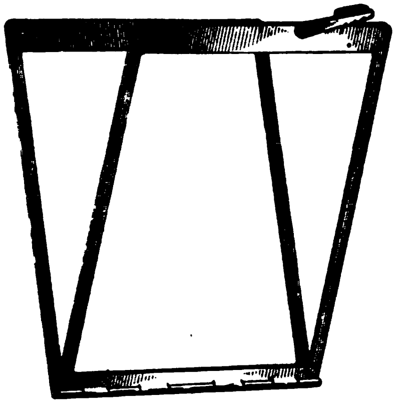
Steichen's portrait studies are mental, and in this particular lies their rare beauty. Study his portraits of Theobald Chartran, of Lenbach, Mrs. Boyeson or Mrs. Steichen and a score of others and marvel at the beauty of their mentality. Why and how does he get it? Because he understands the secret of the hills: Because he looks beyond the mere creature of flesh to the realms of fancy, like Emerson, Carlyle, Beethoven or Longfellow.

Let me tell C. W. B. that before any man can understand or produce fine art, he must first possess that deeper mental understanding of Nature that leads up to it. HENRY BERGER, JR.

New Patents.

855,591. PHOTOGRAPHIC FILM-HOLDER. ALFRED SCHALEK, Chicago, Ill.

Consists of two thin metal frames, one having pins on inner surface which fit into recessor or holes in the other, frames being hinged at one end and provided with a clamp at the other end. The film is inserted between them, the two parts are then clamped together, the pins puncturing the film at the same time, which secures the film rigidly and flat in position for manipulation in developing and other operations.



855,812. PROCESS OF MAKING A DESIGN PAINTING. EDMUND D. ROBERTS, JR., Detroit, Mich.

A print is made from the negative of subject from life or some painting, upon photographic paper such as platinum paper. The background around the picture is prepared with a sizing to prevent colors from striking through. The background is then painted over the sized surface in oil to produce a landscape, marine view, etc., while the photographic print is colored by water colors. The detail of the photograph is not destroyed because of the transparency of the water colors. A painted sketch for purposes of reproduction is thus produced at moderate cost.

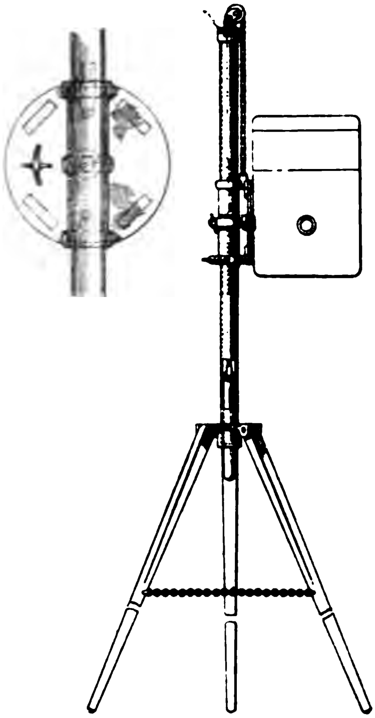
855,705. PROCESS OF PRINTING IN COLORS. JOSEPH A. H. HATT, Brooklyn, N. Y.

It is an abbreviated three-color process. According to the nature of the subject to be reproduced, two plates are used, each placed behind a half-tone screen in the camera. On one an exposure is made of the colored object to be reproduced, through a ray filter located behind the lens, transmitting crimson rays. On the other plate an exposure is made through a filter transmitting green rays. From the complimentary color plates thus made, by means of the bichromate process, printing surfaces are produced in the usual half-tone way. By printing on paper from these blocks in red and green colors over each other a pleasing result (perhaps not quite as effective as the tri-color method) is obtained. Mr. Hatt claims to be the first to use two plates in securing color pictures photo-mechanically.

855,825. CAMERA STAND. P. V. W. WELSH, New York City, N. Y.

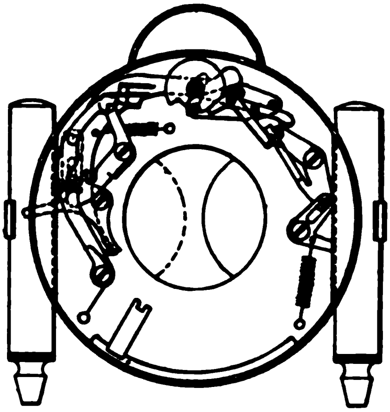
On the top of a tripod, with the legs held from spreading apart by a chain, is inserted a hollow vertical tube, having a pulley on top. On this tube is a sliding sleeve which can be clamped in any position on the tube by thumbscrews operating on split rings.

Rigidly secured to the sliding sleeve is a vertically arranged disk and attached to this but revolvable thereon is another disk which can be clamped in any position by a clamp nut, shown in the smaller figure. The camera is secured at its side to the revolvable disk. A balance chain passes upward over the pulley at the top of the tubular support, into the center, connecting with a balance weight at the bottom. This is guided to run true in the center of the tube by a small guide roll. By loosening the clamp nuts on the sleeve the camera may be raised or lowered on the tubular support or be rotatel around same horizontally. By loosening the clamp nut on the camera support the camera may be revolved vertically about its horizontal axis to any desired angle and clamped there. It is designed to be a handy portable support for gallery work or for copying purposes.



856,600. PHOTOGRAPHIC SHUTTER. E. W. Parker, Rochester, N. Y.

The shutter is located in the lens tube midway between the front and rear of the lens. The essential feature, according to the inventor's statement, is an operating arm or lever arranged to both open and close the aperture of the shutter during a single movement in one direction and a single spring adapted by a pull in one direction to accomplish this result by acting on the lever. Various details of construction are introduced in connection with this single lever which intercept its movement for making time exposures and for slowing its movement on the dash pot principle as seen in the right vertical tube. The left tube is the pneumatic plunger for releasing the shutter, also a trigger which is operated by pressure of the finger. The shutter opens and closes during the single motion of the operating lever by its engaging with studs in rapid succession. The constant pull of the operating spring on the lever avoids the vibration and jar sometimes observed in shutters of the twin spring type. The shutters separate and move together again smoothly. A time regulating device is arranged at the top of the shutter with a scale. It may be termed an automatic self-setting shutter.

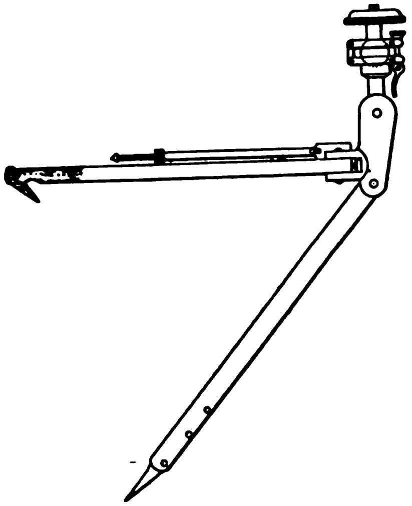


856,783. KODAK FILM. Jesse B. Ketchum, Joplin, Mo.

Specially reinforced section preceding the sensitized portion of the kodak film and protection paper having a rectangular aperture arranged to be brought in front of and under the ground glass of a focusing screen in cameras of the folding type. Prior to making a series of exposures of one general subject, the image may be accurately focused through this aperture on the ground glass, then the pictures are taken in succession in the usual way, or the film may be rewound back on the supply spool for each picture for the purpose of focusing, then reeled off in the opposite direction till the unexposed film comes into place for the next exposure.

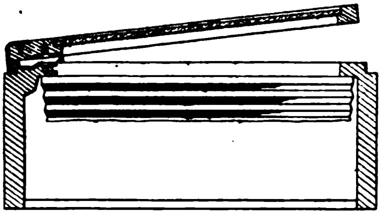
856,610. TRIPOD. O. W. Steindorf, Wheeling, W. Va.

Peculiarly constructed to be adjustable on a vertical support as well as on a horizontal base. The head is adjustable by a ball and socket joint and a lever clamp to hold it in any position. The legs are made slidable and are connected to encased spur wheels just below the head. The lower ends are provided with hinged prongs which can be turned at any desired angle to form a hook. On one leg is privoted a supplemental telescopic arm which is adjustable lengthwise and is used as a brace. The tripod legs may be hooked to a vertical post, then the supplemental leg is extended to strike the post and adjusted by a screw device to tighten up the grip of the hooked legs against the opposite side of the post, making a rigid support for the camera. The camera is leveled by the ball and socket joint at the top of the tripod.



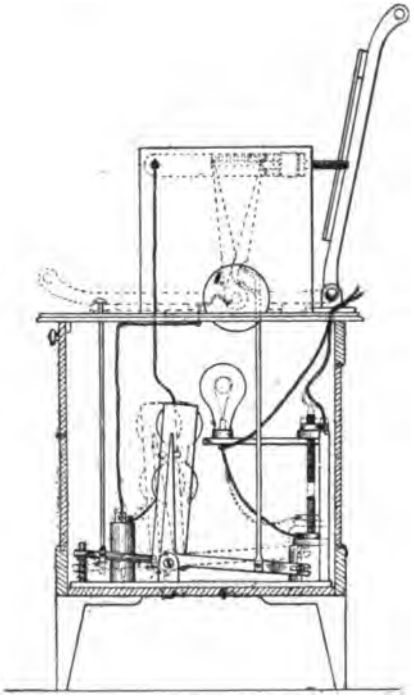
856,618. FOCUSING SCREEN FOR CAMERAS. F. A. Brownell, Rochester, N. Y.

Consists of an easily attachable and detachable ground glass frame to a folding Kodak camera. A hook-shaped plate bent around one end of the frame carries on its interior a double leaf spring. Another hook plate is on the inner face of the end of the frame. The frame is attached by placing the spring plate end over the plate attached to the camera, then pushing the frame lengthwise till the inner hooked plate slides over the end of the camera plate. Then the frame is pushed towards the camera and the spring acts to draw the hook under the plate and lock the frame.



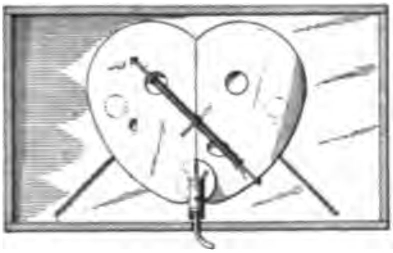
856,716. PHOTOGRAPHIC PRINTING MACHINE. Hervey H. McIntyre, South Bend, Ind.

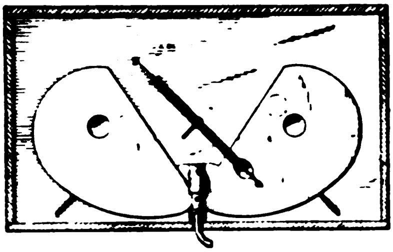
A lower chamber holds an incandescent electric lamp. Above the lamp chamber is a transparent glass sheet, upon which the negative is placed film side up. A hinged cover or platen is arranged above, having a handle. The sensitive printing paper is laid over the negative, the platen is brought down by the operator taking hold of a handle at one end, which presses the paper in contact with the negative. At the same time a rod is forced down which operates a pivoted lever below, and this in turn raises the contact points of electrodes in the rear of the box and causes the lamp to be illuminated and the exposure made. The time of the exposure is regulated by the movement of a motor, like an alarm clock mechanism, placed on the top of the box, which is set off when the light begins to burn and is controlled in its movement by another automatic electric arrangement so that after a given time of any desired exposure has elapsed the light circuit will be broken and the exposure cease. By this means duplicate prints from one negative of equal exposure and quality may be produced with reasonable certainty. There are minor details for regulating the length of the period of exposure to suit the density or quality of the negative and the kind of sensitive paper used. The dotted lines above the chamber show first the platen after it is pressed down, and second, vertical lines of the time regulating device at its beginning and end springing upward from the driving motor; also an adjusting nut is shown to regulate the throw of the indicator. An indicating scale is behind the moving indicator.



856,836. PHOTOGRAPHIC SHUTTER. W. T. and C. C. Barber, Shelbyville, Tenn.

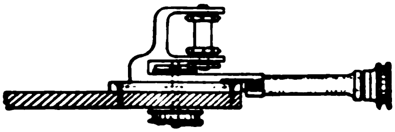
The invention is a double half heart shaped shutter designed for stereoscopic work. The two halves, one for each lens, are pivoted at their lower ends and operated by a pin working in slots at this end, the pin being attached to the piston of an operating air pump. The opening movement of the shutter leaves is aided by two springs, one on each side. The upper view shows the spring extended with tension on the shutter to open same, and the lower figure shows the shutter extended after an instantaneous exposure has been made. The circular dotted lines represent the lenses and the solid circles the opening in the shutter leaves. The center spring enveloped shaft is operated by a handle from the outside and is intended to control the extent of the movement of the shutter leaves. It is shown in the illustration in an oblique position to allow an instantaneous exposure to be made. The shutters are set by an outside lever or handle to the position shown in the upper figure, then when the pump is operated by the bulb the pin pushes upward in the slots and assisted by the side springs pulls the leaves apart rapidly so the other shutter aperture passes by the lens. The oblong aperture in the lower part of the right shutter is caught by the wheel on the central oblique shaft, which prevents the shutter from moving further, at the same time the operating pin on the pump plunger is at its highest point in the slots. For a time exposure the central oblique shaft is rotated to a horizontal position and the disks on the end of the springs drop into semicircular depressions in shutter shown in the upper figure. As the shutter is released by the pump these springs extend to their full length, locking the shutter in place so its aperture coincides with the lens.





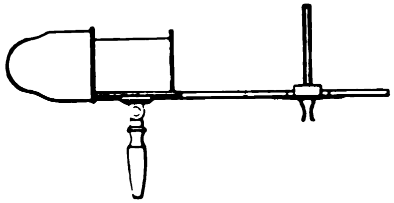
857,069. ARRANGEMENT FOR THE CENTERING OF THE IMAGES IN KINEMATOGRAPH PROJECTION APPARATUS. Ernest A. Ivatts, Paris, France.

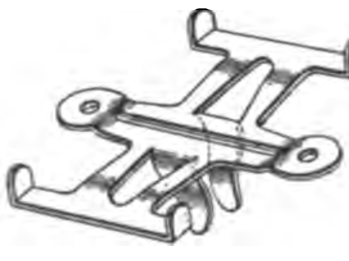
A simple construction arranged on the side of the lantern supporting the rotating film drawing drum so that its movement can be adjusted to always bring the picture on the film accurately in the center optical line of the light, the condenser and the objective. The view is a top orphan view. The bridge or forked arm holding the operating spool is mounted on a rotatable plate as well as the shaft of the driving pulley. A spur tube extends outward on one side which holds a set screw. When the film is led down through the duct in front of the objective and over the film drawing drum if the image does not coincide with the objective center the film is lowered till it does, then the drawing drum is lowered by operating the spur tube to match. The set screw then clamps it in position, and the drum will always bring each picture in the proper place. Any variation in the picture film is thus quickqly compensated for.



857,539. STEREOSCOPE. Henry E. Richmond, Westwood, N. J.

A specially designed spring plate clamp to be secured to the under side of the picture holder of a stereoscope made out of one piece of metal. As will be seen when the two lower parts are compressed with the fingers the pressure of the flat springs on the under side of the slide is released so the picture holder can be moved in either direction





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THE STORM

F. J Mortimer, F. R. P. S.

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SIMPLE COLOR PHOTOGRAPHY ACHIEVED.

BY FRANK R. FRAPRIE.

The new Lumière Autochrome plate is on the market in Europe and will be sold in America as soon as the makers can catch up with the enormous demand in Europe. This seems a simple statement, but it means that color photography has actually reached the stage where any amateur can load a plate in his camera, make one exposure, and produce a permanent photographic positive in natural colors which will be a true picture of the object or scene portrayed. The process demands no matching of colors, no staining or dyeing, no superimposing of one image on another, nothing except putting a single plate through several baths, with practically no risk of failure if the exposure has been correct.

The Autochrome plate is a marvel of scientific ingenuity and technical skill. A sticky plate is coated with a single layer of starch globules, all of exactly the same size, and so small that it takes no less than 20,000 to cover a single inch. These are composed of equal numbers of orange, green and violet particles, and must be placed so that they do not overlap in the slightest degree. The minute spaces between them are then filled with a black substance, so that all the light which comes through must pass through the colored particles. At this stage the film is varnished and subjected to immense pressure, so that all the globular grains of starch are compressed into cylinders, with a flat surface at front and back. This prevents them from acting as little lenses. If the plate is looked through at this stage, it will appear to transmit perfectly white light, as the spots of color are so small as to be invisible to the eye. A magnifying glass will reveal the structure, however.

At this stage the plate is coated with an extremely thin panchromatic emulsion, far thinner than that used on any dry plate in the market. This particular coating is the nearest to an absolutely orthochromatic emulsion which has bet been prepared, but as photographic chemistry has not yet found a means of sensitizing a plate for all colors without the use of a color screen to subdue the action of the blue end of the spectrum, a special yellow screen is furnished to be used with these plates. No other will do.

This plate has to be loaded into the plate holder, not with the film side forward, as an ordinary plate is, but with the glass side toward the lens. Now when an exposure is made, the light after passing through the glass has to pass through the dyed starch grains before it reaches the sensitive

film, and these colored grains act as a color screen. If the object being photographed is green, the light from it passes unchanged through the green grains of starch, but is cut off by all the orange and violet particles. It therefore affects the silver bromide only behind the green grains, and leaves it unchanged behind the others. When the plate is developed, black grains of silver are formed behind the green grains, and all the rest of the silver bromide is left unchanged. In the ordinary photographic process the plate would be fixed at this stage. We, however, wash it and then remove the black silver particles by a process to be detailed further on, and thus leave nothing in the emulsion behind the green grains. The unchanged silver bromide is now reduced to silver, covering up all but the green grains with a black metallic layer. The result is that we have a positive picture of the green object formed by the light through the green starch particles. The action is not really so simple as this, for very rarely will light of the exact color of the grains fall on the plate. Still, the light from an object not of the pure spectrum color will be broken up by the composite filter of the colored grains, and the resulting positive will reproduce not only the colors, but the sheen of silk, the lustre of metals, or the nacre of pearl.

All this sounds like the excited accounts of color photography so often published in the sensational newspapers in the past decade, which have been the laughing stock of scientists. Why is not this to be classed in the same category? To be sure, I cannot say that I have worked the process, for the plates are not yet to be had in America, nor anywhere outside of Paris, except that a few German dealers have had a very few. Well, in the first place, there is the reputation of the Brothers Lumière, the most patient, accurate, and trustworthy photographic chemists of the world. This is no new thing with them. They announced the theory and patented the process years ago, and then started to put it on the market. They worked at it for years, being many times on the point of giving it up because of the tremendous technical difficulties which they encountered; but they persevered, and now they say it works. That settles it; if they say so, it is practical. Then we have the testimony, given within the last two weeks, of several men who are not easily carried away by photographic novelties, men of the greatest technical skill, and also of artistic training. These men are Georg Springer, editor of *Die Photographische Industrie* of Dresden, the organ of the German photographic trade, R. Child Bayley, editor of *Photography,* of London, and Eduard J. Steichen, an accomplished painter and the leading pictoral photographer of America, now living in Paris. All of these men speak of it from personal experience in terms of unbounded enthusiasm.

Mr. Bayley, who for several years has admitted very little on color photography to the pages of his journal, because of the extravagant claims and disappointing results of so many processes, details his personal experience with his first plate. It took him less than half an hour to make the exposure and get the finished picture. He says: "My first plate was as good as any three-color photograph, produced in any method, by the most skillful three-color experts that I have ever seen. And it was my first—using a strange, unfamiliar plate, a developer I have not used for

SURF F. J. MORTIMER, F. R. P. S.

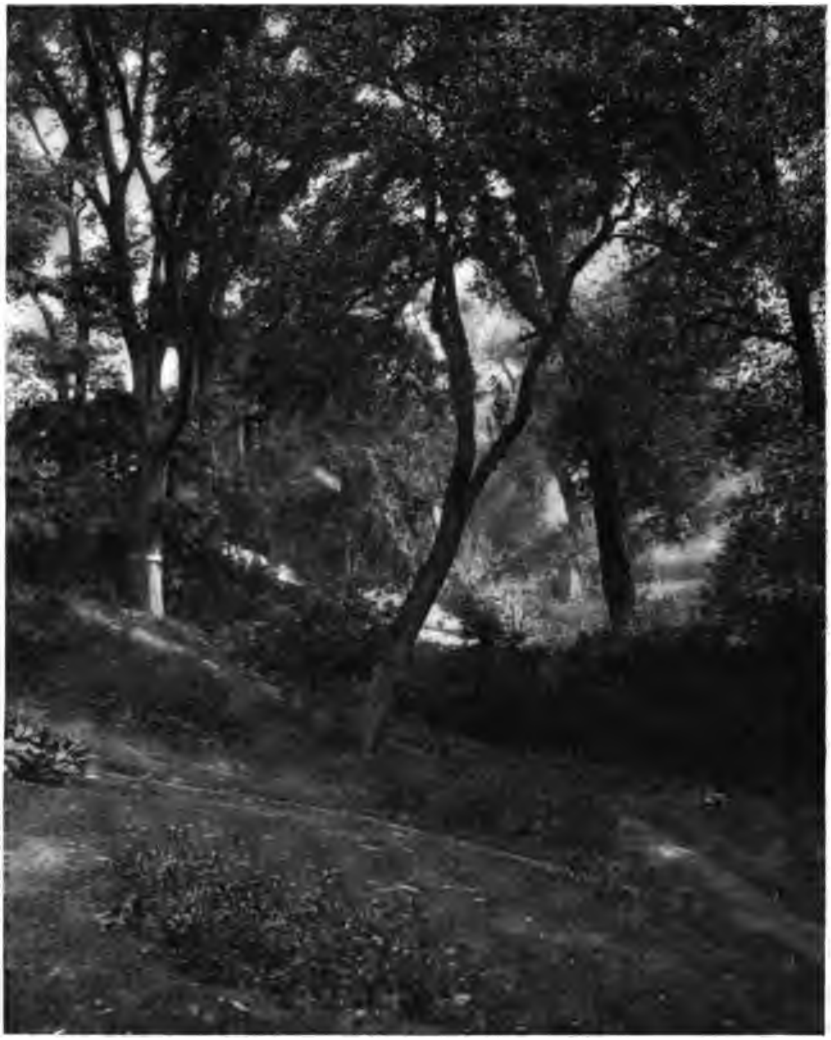
years, and working with nothing more than the makers' printed instructions, with the recollection of an interview a day or two before with my friend Mr. Steichen." And of the results: "Well, they must be seen to be believed. I did not believe in them till I saw them. And I can hardly believe in them now that I have made them myself."

As to the truth of the colors, the process is faithful in its rendering of everything except some shades of yellow and red. The process is artistically satisfactory to Steichen, a painter and essentially a colorist, and the testimony of all the writers named is that the color rendering is marvellous.

The process is bound to create a popular furore. In Paris, the shops have been literally besieged and it is today impossible to get a supply of the plates. This, even in the face of the enormous price, $2.50 for a box of four 5 x 7 plates, and a dollar each for the next size larger. The facilities for manufacture are being increased, however, and soon the supply will be equal to any normal demand. So we may soon expect them on sale in this country.

Now let us see how these plates are exposed and developed. As I have stated, a special yellow screen is used, and they are exposed glass side forward. This necessitates reversing the ground glass in the camera before focusing. The proper exposure in good bright sunshine, with stop f-8 or U. S. 4, is one second. In good diffused light it is six seconds. The exposure being made, we must develop it with the chemicals and formulas prescribed by the makers, and no others. There is here no scope for individual choice. The sequence of operations is so interconnected that a variation may injure the final result.

The plate must not, either in loading or developing, be exposed to a darkroom light of any sort. It is sensitive to the red objects to be taken, and likewise to red light. It is developed in total darkness, that is, in a covered dish, with pyro-ammonia developer. The developer, in goodly quantity, is poured on, the dish covered, and the plate rocked vigorously, for exactly two minutes and a half. The red lamp should be so turned that its light falls on a clock or watch, and not on the developing dish. As soon as the time is up, the developer is poured into the sink, the plate held under the tap for fifteen seconds, and put back into the dish. A solution of potassium permanganate and sulphuric acid, Namias's reducer, is poured over the negative, and the plate may now be carried out into the light, and all further operations be carried on by daylight. Less than three minutes must be spent in the darkroom, exclusive of the time required to load the plate. The reducer begins to act at once; the colors can be seen in a few seconds by looking at the plate, and in less than two minutes the silver is completely reduced, and we have, not a negative, but a positive in natural colors. The plate is again rinsed for fifteen seconds, and an amidol developer poured on, in daylight. This immediately begins to darken the remaining silver bromide, and is allowed to act for two minutes. Another fifteen seconds under the tap is followed by fifteen seconds in a very dilute permanganate reducer, to clear up the lights. Another rinse, and a silver intensifier is used for about thirty seconds, to darken up the opaque deposit.



LANDSCAPE. H. W. TAYLOR

Without washing, the plate is again placed in a strong solution of permanganate for thirty seconds, rinsed, given two minutes in acid hypo, and washed for five minutes under the tap. It is now finished, and may be dried. This takes from ten minutes to a quarter of an hour without artificial heat. It is delicate, and should be protected by varnish or bound up with a cover glass.

This process seems elaborate, but takes less time to perform than to write. Everything is done by time except the silver intensification, and the total time necessary for all the operations is exactly twenty minutes. This is due to the extreme thinness of the film, which is instantaneously penetrated by the solutions.

The following are the formulas necessary for the manipulation of these plates:

First Development.

A.	Pyrogallol	3 gms.
	Alcohol	100 cc.
B.	Potassium bromide	3 gms.
	Liq. ammonia sp. gr. 0.92	15 cc.
	Water	85 cc.

Dissolving the Silver.

C.	Potassium permanganate	2 gms.
	Sulphuric acid	10 cc.
	Water	1,000 cc.

Second Development.

D.	Amidol	5 gms.
	Sodium sulphite anhydrous	15 gms.
	Distilled water	1,000 cc.

Oxidation.

E.	Solution C	20 cc.
	Water	1,000 cc.

Intensification.

F.	Pyrogallol	3 gms.
	Citric acid	3 gms.
	Water	1,000 cc.
G.	Silver nitrate	5 gms.
	Distilled water	100 cc.

Clearing Solution.

H.	Potassium permanganate	1 gm.
	Water	1,000 cc.

Fixing.

I.	Hypo	150 gms.
	Sodium bisulphite lye	50 cc.
	Water	1,000 cc.

Varnish.

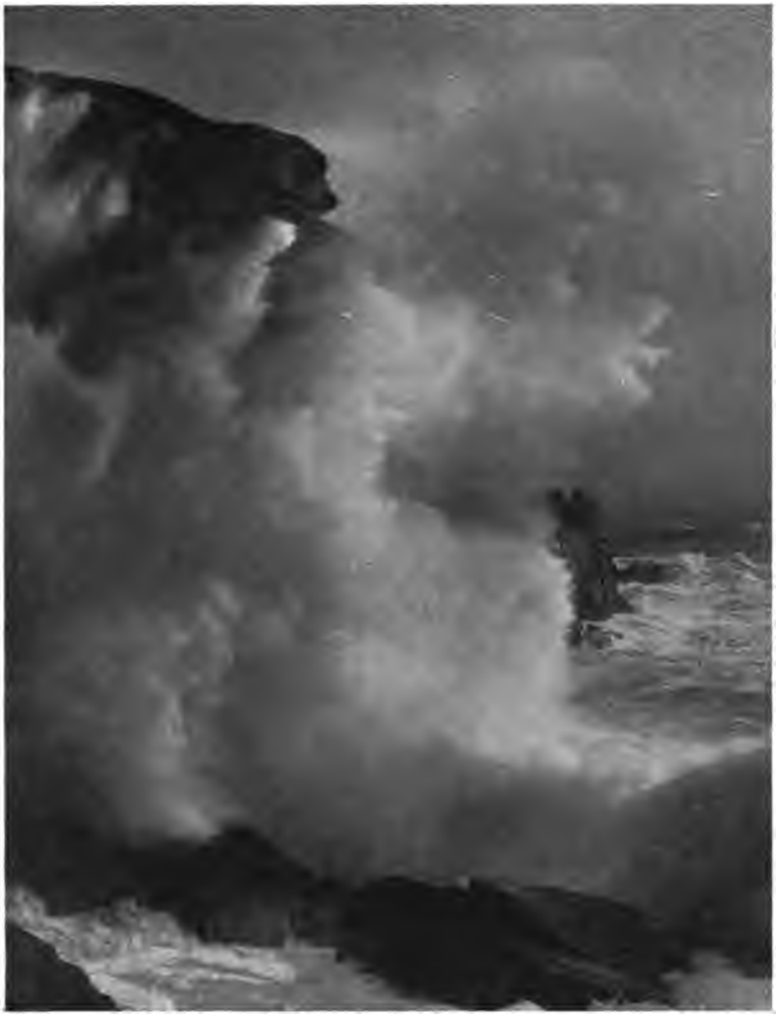
J.	Gum dammar	20 gms.
	Benzole	100 gms.

"SEA HORSES" F. J. MORTIMER, F. R. P. S.

film, and these colored grains act as a color screen. If the object being photographed is green, the light from it passes unchanged through the green grains of starch, but is cut off by all the orange and violet particles. It therefore affects the silver bromide only behind the green grains, and leaves it unchanged behind the others. When the plate is developed, black grains of silver are formed behind the green grains, and all the rest of the silver bromide is left unchanged. In the ordinary photographic process the plate would be fixed at this stage. We, however, wash it and then remove the black silver particles by a process to be detailed further on, and thus leave nothing in the emulsion behind the green grains. The unchanged silver bromide is now reduced to silver, covering up all but the green grains with a black metallic layer. The result is that we have a positive picture of the green object formed by the light through the green starch particles. The action is not really so simple as this, for very rarely will light of the exact color of the grains fall on the plate. Still, the light from an object not of the pure spectrum color will be broken up by the composite filter of the colored grains, and the resulting positive will reproduce not only the colors, but the sheen of silk, the lustre of metals, or the nacre of pearl.

All this sounds like the excited accounts of color photography so often published in the sensational newspapers in the past decade, which have been the laughing stock of scientists. Why is not this to be classed in the same category? To be sure, I cannot say that I have worked the process, for the plates are not yet to be had in America, nor anywhere outside of Paris, except that a few German dealers have had a very few. Well, in the first place, there is the reputation of the Brothers Lumière, the most patient, accurate, and trustworthy photographic chemists of the world. This is no new thing with them. They announced the theory and patented the process years ago, and then started to put it on the market. They worked at it for years, being many times on the point of giving it up because of the tremendous technical difficulties which they encountered; but they persevered, and now they say it works. That settles it; if they say so, it is practical. Then we have the testimony, given within the last two weeks, of several men who are not easily carried away by photographic novelties, men of the greatest technical skill, and also of artistic training. These men are Georg Springer, editor of *Die Photographische Industrie* of Dresden, the organ of the German photographic trade, R. Child Bayley, editor of *Photography*, of London, and Eduard J. Steichen, an accomplished painter and the leading pictoral photographer of America, now living in Paris. All of these men speak of it from personal experience in terms of unbounded enthusiasm.

Mr. Bayley, who for several years has admitted very little on color photography to the pages of his journal, because of the extravagant claims and disappointing results of so many processes, details his personal experience with his first plate. It took him less than half an hour to make the exposure and get the finished picture. He says: "My first plate was as good as any three-color photograph, produced in any method, by the most skillful three-color experts that I have ever seen. And it was my first—using a strange, unfamiliar plate, a developer I have not used for



SURF

F. J. MORTIMER, F. R. P. S.

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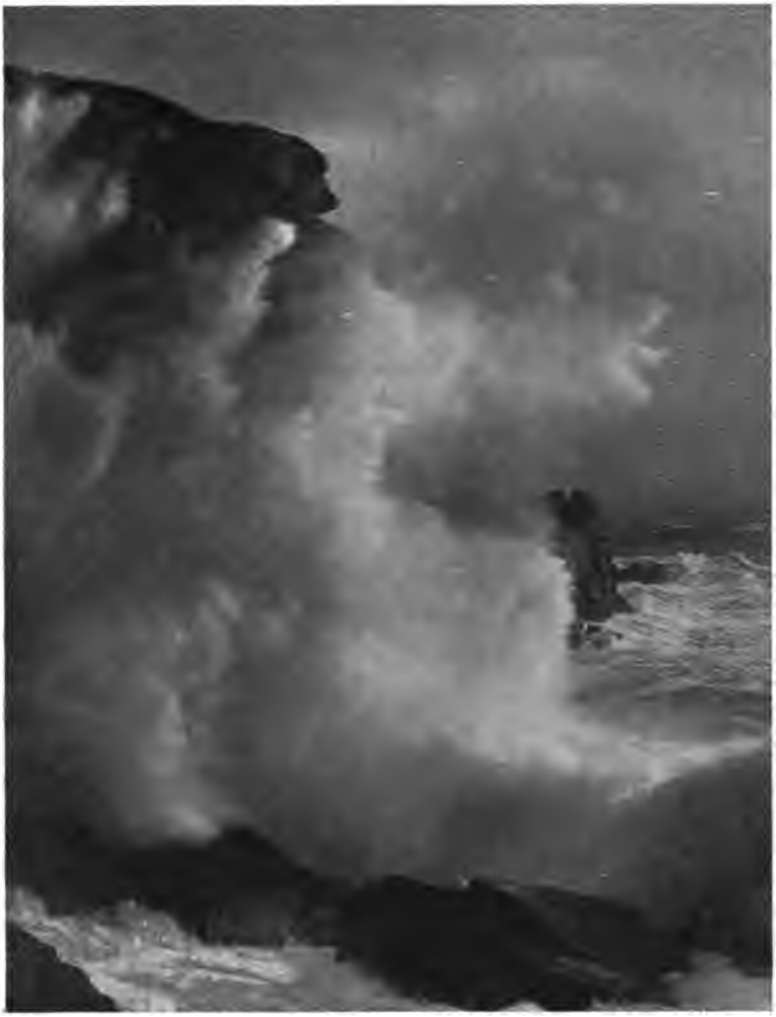


SURF F. J. MORTIMER, F. R. P. S.

about a score of photographers who were exceedingly interested in the expressions and were busily discussing how they were got. A glance at the portraits was sufficient to tell the whole story and my first impulse was to make the necessary explanations, but on second thought I decided to wait awhile. Shortly afterwards the photographer asked me what I thought of them. My reply was that he certainly had run his camera stand as far down as he could get it. He smiled and replied that I was the only man that had seen through his little trick, and we both agreed it would not be a bad scheme to allow the other members to use their eyes and reasoning faculty for a little while. The pictures reproduced along with this article tell the whole story. Yet the vast majority of photographers day by day use the camera stand at the level that suits the photographer's height and never for one moment consider the effect upon the sitter.

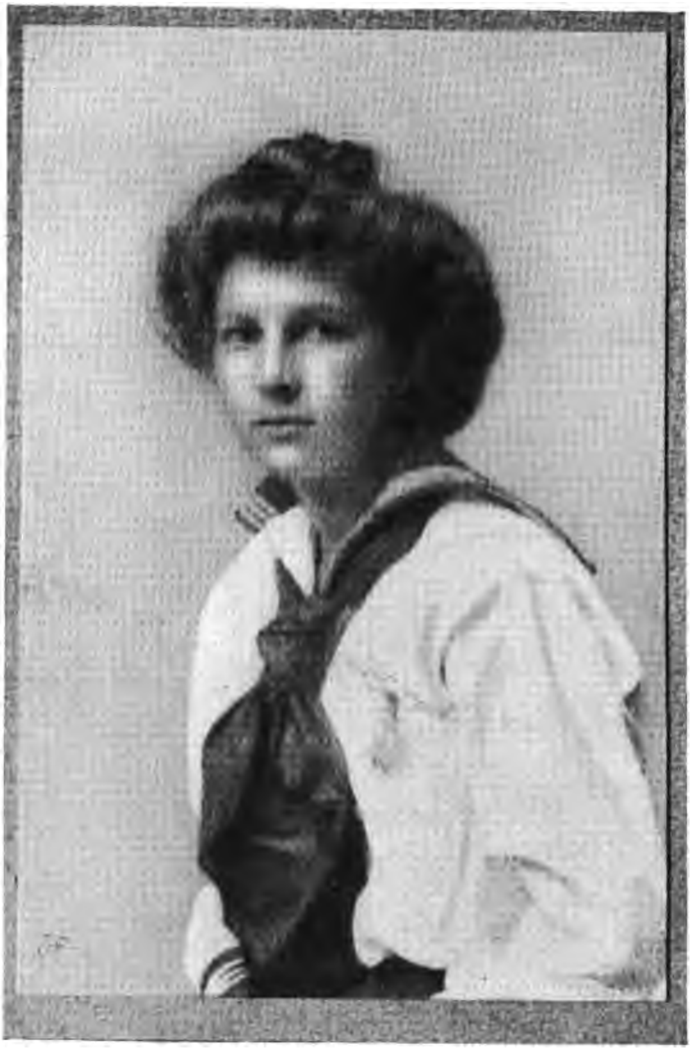
Coming now to the prints, let me point out that the distance from the plane of the left hand to that of the right is eighteen inches and the same distance from the left hand to the far away shoulder. The background is about four feet behind the sitter.

According to the laws of perspective, when two objects of the same size are at unequal distance from the lens the one further away will in the photograph be smaller. Therefore, in the instance under consideration, the left hand will be smaller than the right. In the portrait taken with the 6-inch lens the difference is so great that one's eye is offended because the lens at the moment of exposure was much nearer to the sitter than one would be if one could see at a glance all that was included in this portrait. As a matter of fact, one would need to be about six feet away at least to include this amount of view, but the lens was distant only about half of that.

With the 8½-inch lens there is less apparent difference between the two hands, but it is still far too big, while in the portrait made with the 12-inch lens the hands are more evidently of a better proportion to each other. The effect is very different when we come to deal with the telephoto exposures, for here the hands look perfectly normal.

I have already pointed out the dignified or haughty expression that goes with the lenses of shorter focal length, and I need not enlarge on this any further, but before closing I would like to point out the differences of the expressions made by the mouth in the different portraits. A human head is a ball, and so we may safely compare the line of the mouth with a line drawn on the circumference of a ball. If we view this line when it is held at the level of the eye it will appear perfectly straight, but if we lower or raise the ball then the line will present the appearance of a curve, and the more it is raised or lowered the deeper will the curve appear. Coming now to the portrait, we know that when the 6-inch lens was used it was decidedly below the level of the mouth, and therefore the latter has the appearance of being very decidedly turned down at the corners. On looking at the prints made with the telephoto lens, the mouth expression is very different; in fact, the corners have a tendency to turn upward.

On submitting these prints to a rather prominent photographer, he simply remarked: "I never could get a decent expression on a sitter's face if my lens were any nearer than six feet, and I prefer a foot or two more."



PORTRAIT **J. H. FIELD**

Without washing, the plate is again placed in a strong solution of permanganate for thirty seconds, rinsed, given two minutes in acid hypo, and washed for five minutes under the tap. It is now finished, and may be dried. This takes from ten minutes to a quarter of an hour without artificial heat. It is delicate, and should be protected by varnish or bound up with a cover glass.

This process seems elaborate, but takes less time to perform than to write. Everything is done by time except the silver intensification, and the total time necessary for all the operations is exactly twenty minutes. This is due to the extreme thinness of the film, which is instantaneously penetrated by the solutions.

The following are the formulas necessary for the manipulation of these plates:

First Development.

A.	Pyrogallol	3 gms.
	Alcohol	100 cc.
B.	Potassium bromide	3 gms.
	Liq. ammonia sp. gr. 0.92	15 cc.
	Water	85 cc.

Dissolving the Silver.

C.	Potassium permanganate	2 gms.
	Sulphuric acid	10 cc.
	Water	1,000 cc.

Second Development.

D.	Amidol	5 gms.
	Sodium sulphite anhydrous	15 gms.
	Distilled water	1,000 cc.

Oxidation.

E.	Solution C	20 cc.
	Water	1,000 cc.

Intensification.

F.	Pyrogallol	3 gms.
	Citric acid	3 gms.
	Water	1,000 cc.
G.	Silver nitrate	5 gms.
	Distilled water	100 cc.

Clearing Solution.

H.	Potassium permanganate	1 gm.
	Water	1,000 cc.

Fixing.

I.	Hypo	150 gms.
	Sodium bisulphite lye	50 cc.
	Water	1,000 cc.

Varnish.

J.	Gum dammar	20 gms.
	Benzole	100 gms.

"SEA HORSES"

F J. MORTIMER, F. R. P. S.

JAPANESE PÆONIES.

MISS E. L. MARILLIER.

FOCAL LENGTH IN PORTRAITURE.

By F. Dundas Todd.

Until very recent years when a professional photographer was buying a portrait lens about the only question he thought fit to ask was, What size of plate will this lens cover? Thanks to the active educational efforts of the demonstrators sent out by the leading lens firms, the more intelligent photographers are fast learning that there are several other points about a lens that are worth considering and that not the least important is the one that concerns the focal length.

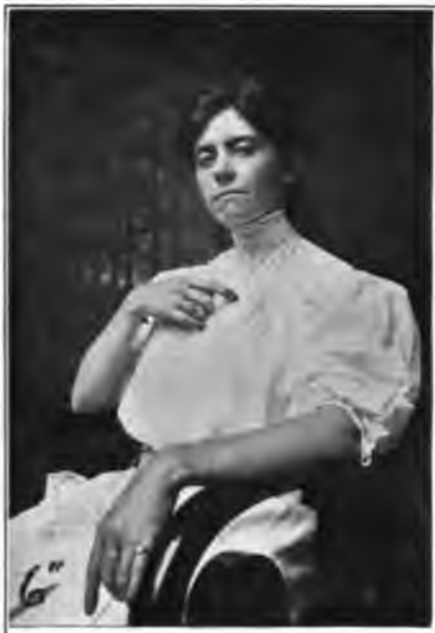
In days not so very far distant the size of a photographic studio was apt to be limited by the surrounding conditions, and it is a notorious fact, especially in our larger cities, that the majority of studios are far too short for the making of portraits according to modern ideals. This has caused lenses of short focal length to be used when the photographer knew better.

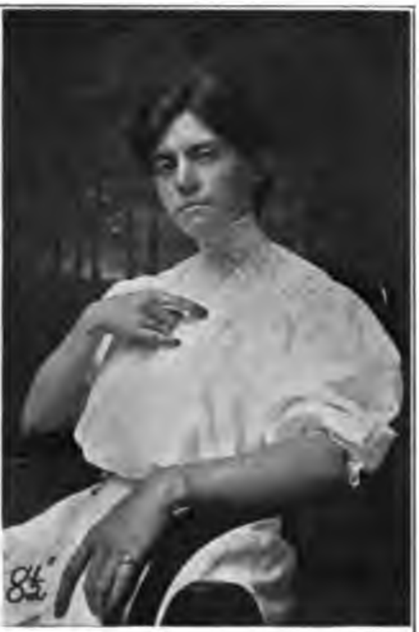
It is not my intention in this article to endeavor to cover all the conditions that concern the making of a first-class portrait, but rather to show the results of a series of experiments that I made about a year ago. I had taken up the problem of focal length of lens in connection with landscape work, and on showing them to one of my professional friends he at once suggested that I make the same series of experiments with a sitter, and of course I very gladly consented.

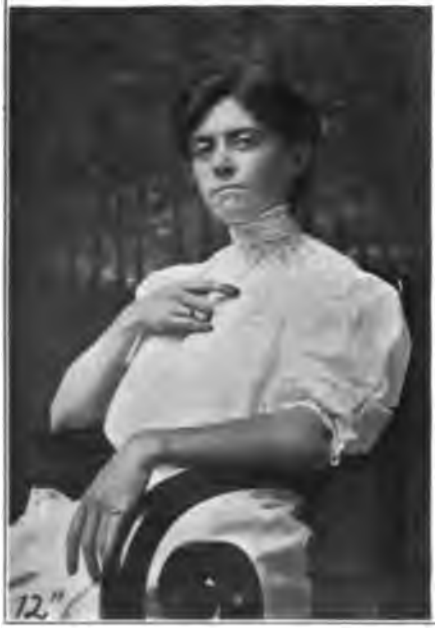
I happen to be the possessor of the following lenses: 6-inch anastigmat, 8½-inch anastigmat, 12-inch ordinary R. R., and a telephoto lens that is fitted to the 8½-inch anastigmat. The smallest enlargement possible with this lens that will cover a 5 x 7 is three times, so that there is quite a gap in my series between the 12-inch and the three times magnification with the telephoto. The idea did not strike either of us to use my friend's 16-inch anastigmat, so that the series runs 6, 8½, 12, 25 and 34 inches focal length.

We were very fortunate in our sitter, who is a professional photographer and has the faculty of posing as directed for quite a long time, and keeping perfectly still during such rather long exposures as are required by a telephoto lens. She has also very great command over her expression, and, as far as my friend and I can judge, she never varied throughout the whole of the series. We therefore hold that such changes of expression as are to be seen in the various portraits are more due to the focal length of the lens than to involuntary changes on her part.

We began the series by taking the longest focus the size of the studio would admit, which was 34 inches. The camera stand was properly leveled and the height of the lens was such that a good view was secured of the underside of the nose. This exposure having been made, the camera was moved forward to the proper distance for three times magnification and the adjustment was made on the lens. As we proceeded forward for each of the exposures the camera had to be lowered in order to get the image to fall exactly the same in each instance on the ground glass. In the exposures made with the shorter focal lengths the result of this lowering is very evident, and it will be noticed that the lens shows more and more a considerable


6"


8½"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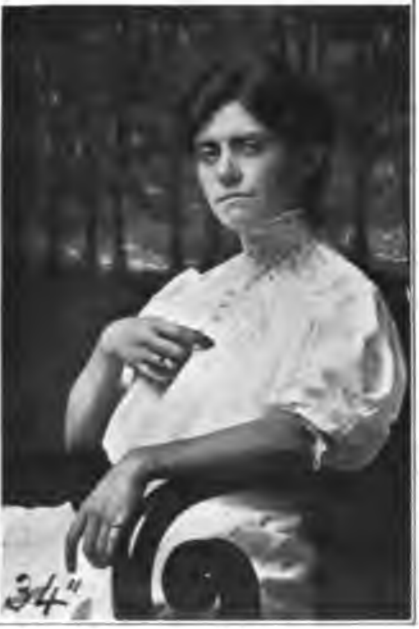
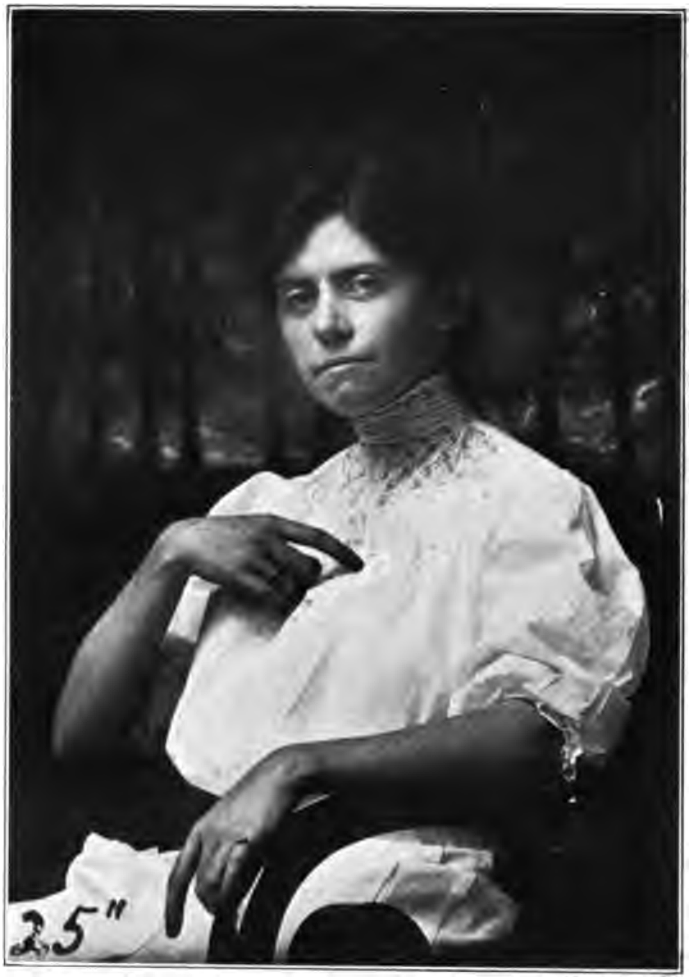

34"



part underneath the chin, and develops step by step a haughty expression, or, as some might prefer to call it, a dignified expression, due to the fact that the lens is, so to speak, looking up at the head.

Right here it might be worth while to incidentally mention that it is a well-known trick of portrait painters to secure an effect of dignity in their sitters by viewing them from a rather low standpoint, and thus getting an effect that suggests that the subject is looked up to. This reminds me of three very successful portraits by a famous photographer that were shown at the National Convention several years ago. The subjects were ladies—the photographer avoids this class of subjects now—the wives of members of a state legislature, rather ordinary individuals at home, but in the photographs they were persons of great dignity. It need scarcely be said that the photographer had made considerable profit that winter by his skill, but on this point I will not enlarge. When I approached the portraits I found about a score of photographers who were exceedingly interested in the expressions and were busily discussing how they were got. A glance at the portraits was sufficient to tell the whole story and my first impulse was to make the necessary explanations, but on second thought I decided to wait awhile. Shortly afterwards the photographer asked me what I thought of them. My reply was that he certainly had run his camera stand as far down as he could get it. He smiled and replied that I was the only man that had seen through his little trick, and we both agreed it would not be a bad scheme to allow the other members to use their eyes and reasoning faculty for a little while. The pictures reproduced along with this article tell the whole story. Yet the vast majority of photographers day by day use the camera stand at the level that suits the photographer's height and never for one moment consider the effect upon the sitter.

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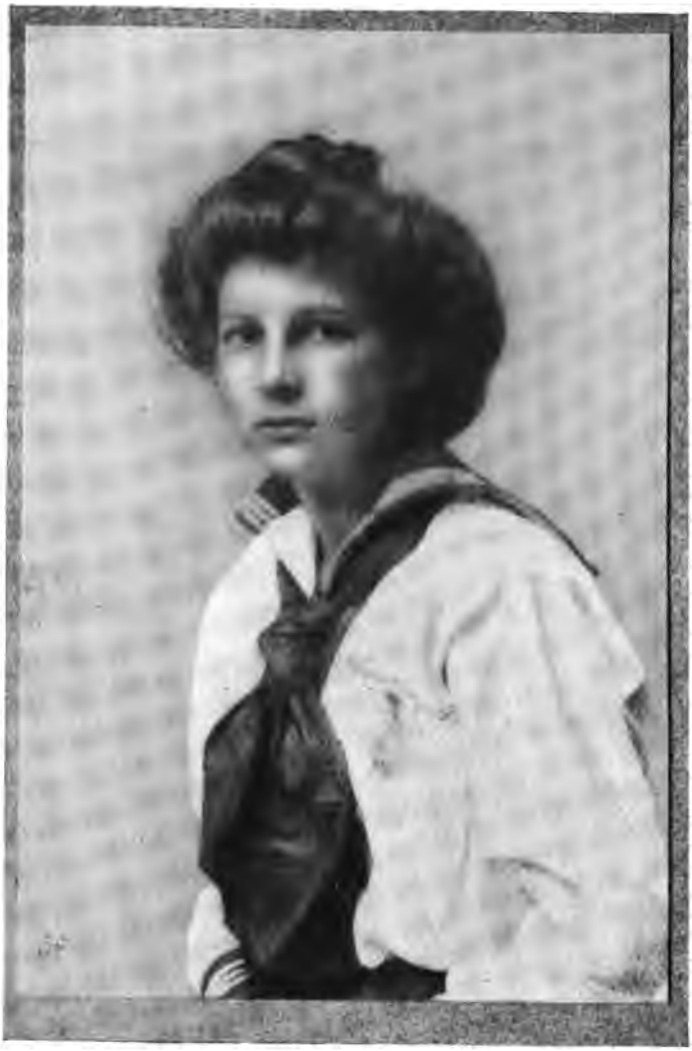
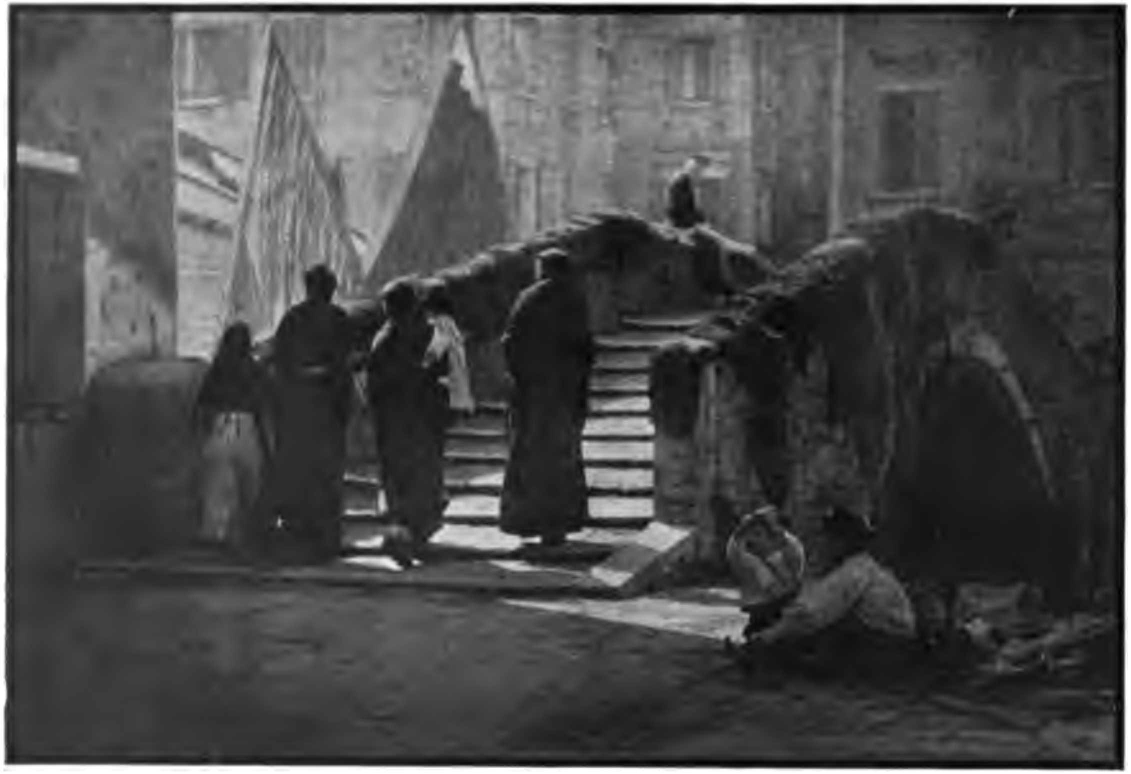


PORTRAIT J. H. FIELD



THE BRIDGE

ALEXANDER KEIGHLEY

DIFFICULT INTERIORS.

By C. H. Claudy.

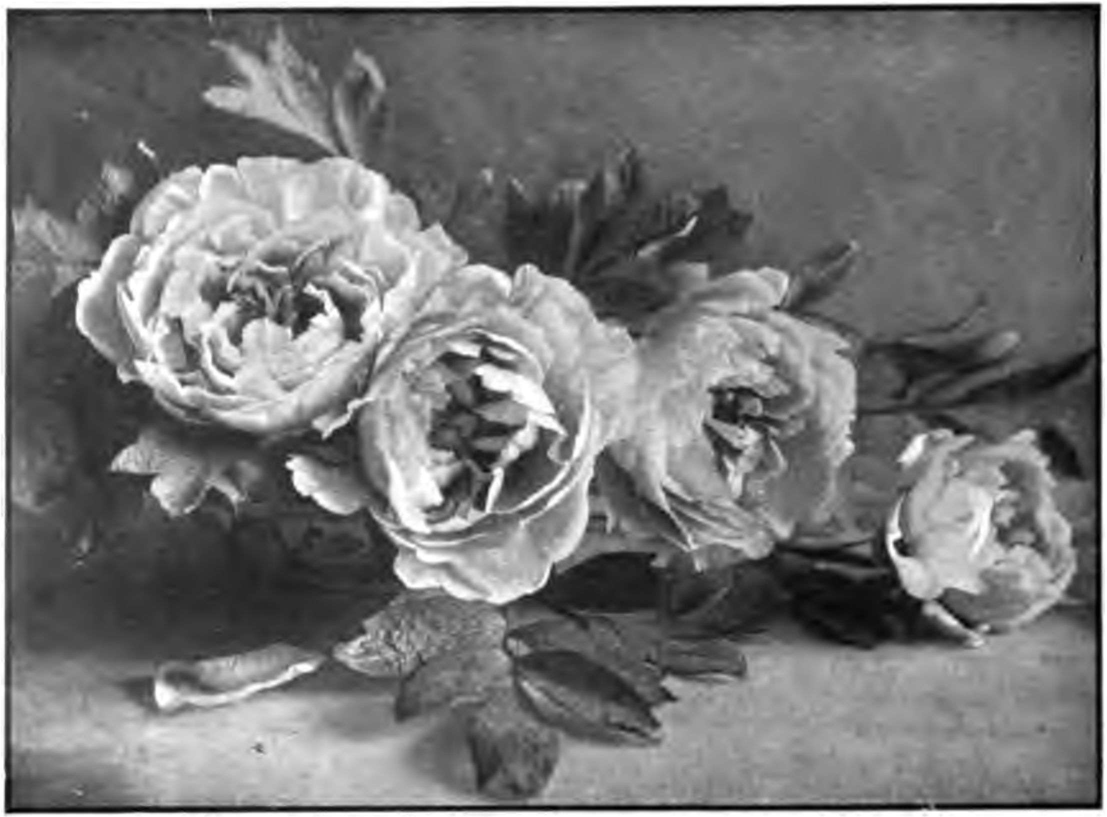
Like every other kind of photography, interior photography has grades. Some interiors are easy, some not so easy, some hard, and some seemingly, if not actually, impossible. But the impossible kind in appearance are sometimes feasible to make if one goes at it in the right way. Of course, for such things there can be no rules, as there can be no rules which will tell a photographer how to make a "picture." Every such problem has its own solution, but there are certain hints which will apply to many such difficulties, and a few of these comprise this story.

A recent experience of my own is a case in point. I was called on to make some interiors which at first blush looked like impossibilities. But by hook or by crook, some sort of a picture had to be made. So it was a question, not of "Is it possible?" but "What can be done?" The first subject was the interior of a chapel. I was told that three sides, the roof and the floor, were wanted—an angle of nearly 180 degrees. There was no light whatever except that which came through stained glass windows. Every point of view would include some of these windows, and it was too dark to read in the chapel.

The 180-degree problem was to be solved by making three plates, each the upright way, and joining them. As the result was wanted for a half-tone reproduction, discrepancies in the joint could be covered by art work in the hands of the engraver, which made it a little less complicated. But, my word! When I looked through the camera, and attempted to focus, I nearly gave it up. Not one thing could I see except those stained glass windows, and that with the lens opened to f-6.8. I forgot to say that an overhanging roof and porch protected the interior from what little light would otherwise get through.

I got hold of half a dozen workmen and unlimited old curtains. I had all the windows on one side covered up. Then I focused on a candle flame until I was sure I had the middle distance as sharp as could be. Then I very carefully leveled the camera, so that it could be revolved and would still stay level, and this is a very important point in doing any kind of two- or three-plate interiors or exterior work. I did *not* bother to have the tripod screw exactly underneath the lens, where it theoretically should be, knowing that the minute difference that would make in the perspective would not be noticeable in the print.

Then the camera was again oriented and refocused, the lens stopped down to f-16, plate put in and left for an hour. I wanted to leave it longer, but I had three such plates to make and other work to do. Then the lens was very carefully *capped*—not closed with the shutter—and all the curtains over the windows on the outside were removed. The cap was removed and replaced two seconds later, the plate holder removed, and one plate was done. Now if it were possible to have a lens which covered 180 degrees on the plate, obviously, all of the plates would have to be given the same expos-



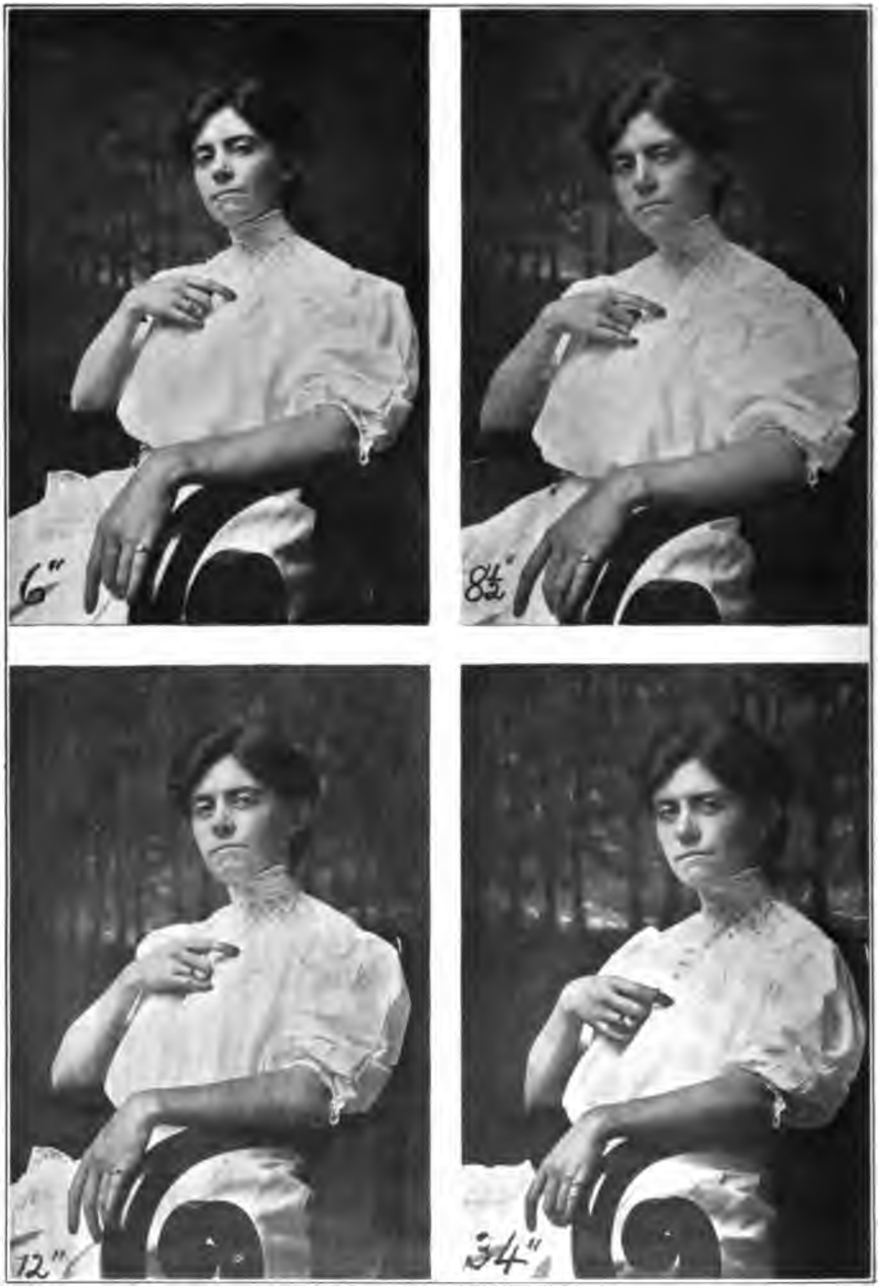
JAPANESE PÆONIES. **Miss E. L. Marillier.**

artists soon corrected that. I did not stop down more because that would have meant a longer flash, and a longer flash, with the low ceilings I had to work with, would have meant rolls and clouds of smoke in the picture. Such work must be compromised, and my compromise was effected with a little fuzzyness in the foreground where it could be easiest corrected.

Then I was led to a reception hall—as big as three ordinary rooms—and told to make a three plate panorama of that. I declined to undertake it then—at two in the afternoon—but returned another day, to do so with a full day ahead. It took me just two hours to get ready to make that picture. To begin with, every single window, and there were a lot, had to be stopped with curtains. Then the furniture had to be arranged and two ladies had their say in this, and they worked as hard as they could to get it exactly right. Then the chandelier had to be taken down. It is an ornate "period" room and the chandelier can have nothing but white globes because it uses acetylene gas. And neither white globes or no globes were "in the picture." So we got hold of a plumber, and down it came. Then I had to do some thinking. The hall opened at either end to cross halls, arched alcoves and other rooms. It was essential to show these. The stairway at the end of the hall was where the windows were—also stained glass, and this had to be illuminated. There was a huge brick fireplace, and that had to be considered. One of the ladies wanted to fill it with greens, but that didn't look right, so I said I would put a fire in it. How, I will tell you in a minute.

I spent some time getting my camera just where I wanted it, and then made ready for the first exposure which was on my left. It included one side of the large reception hall and a smaller reception room. To the extreme limit of the right of the plate was an archway leading into a cross hall and another archway which led into another smaller room. I made a daylight exposure of ten minutes at f-16, and then a flash in each of the smaller rooms and in the cross hall, being careful, of course, not to get any of the flash in the picture. This plate was removed and, without moving the tripod, the camera turned so that it faced the end of the reception hall. Here there were several windows and a glass door, all of which were screened with curtain tacked up on the outside. A ten-minute exposure was made by daylight. Then a flash was made upstairs over the gallery which faced the camera, and finally the curtains were taken down, while the lens was capped, and a one-second exposure given for the windows. This plate was removed, and a third inserted after again turning the camera so that it faced to the right. Here there was a large fireplace, in which I had to create a fire, and also a very dark room to the right showing through archways. The same ten-minute exposure was given, helped out with a large flash behind the camera. Then a flash in the room, another in the hall, and finally, after capping the lens, a newspaper was set on fire in the fireplace, on top of the logs, and a short exposure of five seconds made upon that. The result of the whole was a set of plates which gave nearly an angle of 180 degrees in the hallway and showed, as no single photograph could, the architectural layout and the various rooms, halls and passageways.

The last picture I made that day was interesting to me in that it was so


6"
8½"
12"
34"

taste that can be obtained in no other way; a taste (excuse the hibernianism) that will be a comfort of which you are not conscious.

I digress here to say that I infer you have not the time nor inclination to make it a regular business and yet would not object to making a few dollars out of pictures. Of course, you will make ten landscape views to one portrait and will have this in mind when you buy a camera. But do not, as I did, jump to the conclusion that because a lens is good for both portraits and views that you can take both at one exposure. There is no lens at any price that will give a good portrait and a sharp, brilliant landscape background. Take the address of any camera firm from the pages of this magazine, write and tell what you want and if within the range of "photographic possibility" they can fit you out. By all means get a ray filter and one that fits the hood of the lens neither tight nor loose, *just fits.* You will likely besiege the gallery of some professional friend for "pointers." I did.

But all the instructions from the gallery, regarding exposures were so inapplicable to my conditions as to be positively misleading. You must make exposures when you are where they are to be made and have no control over times and seasons. You are visiting a farm in the country and there comes up a shower, the sun is falling in the west and the slanting rays bring out the landscape in dazzling freshness. The cows are out in the east pasture.

The clouds hang over the forest in the northeast. From your inner consciousness you must know how to "expose" this view and you will have a gem. This chance was not here yesterday, it will not be here tomorrow, it may not occur again in ten years. Get where the shadows of the trees in the pasture fall nearly, not quite, at right angles to your line of sight and away from you, avoid shrubs, so close as to be out of focus. Near the center of the view is a cow; focus on her. Use the largest stop that will give sharp outlines; put on the ray filter and give several times the exposure you would give without it.

When you come to the dark room develop the cow, the remainder of the picture will be all right. There are three things in which it is economy to be extravagant—plates, plate holders and printing paper. Get good articles of all three. For the present use prepared chemicals, *and as few of them as possible,* something moderately fast, and a developer that will work both plates and prints. You will then have but two things to watch and remember. Intensifiers and reducers are that much more expense and we must learn to develop so as not to need them. Regarding developing and printing outfits, I have bought three things and had to throw away two of them so often that now I would buy "by the piece." A lamp with both ruby and orange glasses, large enough to give plenty of light without being turned up to the smoking point; if you have a 5x7-inch camera get 6½x8½-inch developing trays. For fixing and washing trays for prints the larger the better. The fixing tray should be large enough to hold at least four prints without touching. The squeegee plate should have surface equal to the area of six prints. I do not wish to criticize the procedure of others, but to defend my own when I say that I have found the hydrometol developer the most satisfactory, fast enough to allow a good evening's work and slow enough to control, yet with the greatest care I could exercise I could never compound it to work as well as that I bought already prepared. The purity of the water is an element of success or failure and unless it is absolutely necessary amateurs do not like to filter it. A simple test is to fill a clear glass bottle and let the sun shine through it. If the water remains clear it is certainly safe for our purposes. I have inferred in this article that work would be done by artificial light, likely after a day of toil, and have pointed out the shortest way that I have found safe.

The expedients to which our writers of "books of instructions" have resorted are well to remember, but better to avoid. I loaded my holders the first time by the expedient of a red cloth over a dry goods box with a common lamp inside. I went ten miles over mountain and river for a series of views to illustrate an article. I returned hungry and tired, shins skinned by rocks and flesh torn by briers, to find half my plates wrong side out. Besides the loss of time and plates the article missed the issue for which it was intended and I had half my work to do over again.

The dark room work can be reduced to routine, the real artistic part, the part that has the individuality is the exposures and viewing.

Ingenuity can do much here. Take the same mountain peak. One "viewer" will get a picture that has a real value, another may get a very common picture from the same ground.

As an illustration there is a hill near here that terminates in a pile of massive rocks. Some tourists wanted a "view" of the point and, of course, wanted to be "in it." Posed in artistic attitudes with the nearby peaks for a dim background, they made a good picture, but there was an air of common-place about it. The same group at the same place posed on top of the rock, the bare sky for a background, the camera turned so that the picture had an air of "great effort" and the members of the group looked the part of "great mountain climbers" they wished to assume.

While this hill was the lowest and most easily ascended of any for miles, the picture appeared in a great daily under the title: "A lofty pinnacle in the Ozarks."

Perhaps you have not the inclination, even if you have the talent, to write up to your pictures and yet you feel that you have something "good enough for the papers." In that case you will be in the domain of "press photography," a domain that is not as "hermetically sealed" to amateurs as you have been told. After all we all want to make money out of our pictures, and the poorest paper is a better customer than the richest patron. Papers are always hungry for illustrations. The great dailies want "central idea," contrasty, pure black and white tones and after "central idea" care little for minor details. The monthlies want wealth of detail and artistic gradation of tone.

Get one good central feature for your picture and keep all "attention distracting" things out.

I went to "Jinks' Mills," an assignment. The "hands" all wanted to be "in the picture." I saw a way to turn several honest dollars and posed the men, each agreeing to take one of the views.

The editor rejected my work on the ground that he "could get pictures of a gang of sawmill hands any time." Jinks was mad because his men were shown like "buzzards on a limb" and not at work; the men would not have the pictures and I was left with twenty-four prints of a gang of sawmill men each with an "I am the vine, ye are the branches" look on his face.

Already tedious, I must say more. All have heard the story of the drifting sailors dying of thirst, hailing a passing ship for water, only to be told to dip over the side, as they were in the mouth of the Amazon and the water was pure for miles on every side and hundreds of feet deep. There are good subjects all around; good subjects for the press or to file in your collection. Look in any of the high-class illustrated papers and you will see subjects reproduced the like of which are on every hand.

It is not always the terrible, the grotesque nor the uncommon that gives good views.

At the time of the floods last January the section men were out night and day. There would seem litle promise in a negro section crew with a stern-faced Irish foreman, yet in the falling sleet when I shivered with the cold I secured a view that later was the central illustration of a high-priced article. There was no "pose," the view made itself and told its own story like a sweet chord in a grand chorus, the story of the most unpretentious heroism.

PREPARATION OF SODIUM SULPHITE.

By Randolph Bolling.

The most convenient laboratory method for preparing this salt absolutely chemically pure and free from sulphate and either anhydrous or crystals with perfect success is the one based on the decomposition of sulphuric acid with copper with the liberation of anhydrous sulphurous acid gas. This gas is washed after leaving the generator by water to free it from sulphuric acid and copper sulphate spray and is then allowed to act on a saturated solution of sodium carbonate with the production of sodium sulphite and carbonic anhydride. The reaction taking place, viz:

First reaction $2H_2SO_4 + Cu = CuSO_4 + SO_2 + 2H_2O$

(Molecular weights) $196 + 63 = 159 + 64 + 36$

Second reaction $SO_2 + Na_2CO_3 = Na_2SO_3 + CO_2$

$64 + 106 = 126 + 44$

It is thus shown that starting with 196 parts of sulphuric acid and 63 parts copper in first reaction we obtain 64 parts of anhydrous sulphurous acid together with the by-products copper sulphate and water. In the second reaction the 64 parts of sulphurous acid formed react on 106 parts of sodium carbonate producing 126 parts of anhydrous sulphite.

The operations can be carried out easily by using a 1 liter glass flask, Jena glass preferably, and fitting the neck with a two-hole rubber stopper through which pass a glass delivery tube ½ inch diameter and a 120 c c m

Without washing, the plate is again placed in a strong solution of permanganate for thirty seconds, rinsed, given two minutes in acid hypo, and washed for five minutes under the tap. It is now finished, and may be dried. This takes from ten minutes to a quarter of an hour without artificial heat. It is delicate, and should be protected by varnish or bound up with a cover glass.

This process seems elaborate, but takes less time to perform than to write. Everything is done by time except the silver intensification, and the total time necessary for all the operations is exactly twenty minutes. This is due to the extreme thinness of the film, which is instantaneously penetrated by the solutions.

The following are the formulas necessary for the manipulation of these plates:

First Development.

A.	Pyrogallol	3 gms.
	Alcohol	100 cc.
B.	Potassium bromide	3 gms.
	Liq. ammonia sp. gr. 0.92	15 cc.
	Water	85 cc.

Dissolving the Silver.

C.	Potassium permanganate	2 gms.
	Sulphuric acid	10 cc.
	Water	1,000 cc.

Second Development.

D.	Amidol	5 gms.
	Sodium sulphite anhydrous	15 gms.
	Distilled water	1,000 cc.

Oxidation.

E.	Solution C	20 cc.
	Water	1,000 cc.

Intensification.

F.	Pyrogallol	3 gms.
	Citric acid	3 gms.
	Water	1,000 cc.
G.	Silver nitrate	5 gms.
	Distilled water	100 cc.

Clearing Solution.

H.	Potassium permanganate	1 gm.
	Water	1,000 cc.

Fixing.

I.	Hypo	150 gms.
	Sodium bisulphite lye	50 cc.
	Water	1,000 cc.

Varnish.

J.	Gum dammar	20 gms.
	Benzole	100 gms.

HINTS FOR BEGINNERS—PRINTING.

By H. Burton Allbee.

Every operation in photography, from purchasing the camera to retouching and refinishing the negative, described in previous issues of the American Amateur Photographer and Camera and Dark Room, leads up to this, the print. All these operations are but means to that one end and unless the negative is properly made and unless it has properly graded tones the print will be unartistic, unsatisfactory and all the work hitherto done will go for nothing. A good print, one embodying the artistic conceptions of the one who has performed the operations heretofore described, is the aim of every amateur. Success or failure depends upon how well previous operations have been done. But success is an elusive term which may mean one thing to one and another thing to another. But every one will admit that a print which faithfully reproduces the color values and the delicate tone gradations of the original scene is a success regardless of whether one believes a print should be fuzzy, needle sharp or that happy medium which is half between these two extremes.

Inasmuch as this article is for beginners especially nothing will be said about printing out paper which requires toning. Reference will merely be made to the gaslight papers which have practically superseded every other sort for amateurs' use largely because they can be used at night, and that is an important consideration with a majority of amateurs.

Gaslight paper, as every amateur knows, is so called because it can be printed by artificial light, including gas, electricity or an ordinary kerosene lamp. Beautiful prints can be made with a kerosene light. This is an advantage which cannot be ignored and is undoubtedly the reason why the paper has become so popular. There are a dozen brands which can be so used and all give good results. The difference between these papers and the printing out papers is that the gaslight papers must be immersed in a developing solution, the same as a plate, while the printing out papers show the image while printing and need to be toned after printing is finished. There is little difference in the trouble of the two processes. It is a matter of convenience and also of the fact that practically all amateurs and most professionals prefer the black and white prints of the gaslight or allied papers. Within reasonable limits they are permanent.

Printing gaslight paper is a simple matter. Put the negative in the frame, film side in. Place a sheet of paper over it with the film to the film of the negative; close the frame and expose to a gas burner, an electric light or a kerosene lamp the required number of seconds.

An ordinary negative; that is, the average that an amateur will make, should be exposed to a common gas burner for thirty seconds, say, as a standard, held a foot or so from the light. Hold dense negatives near the light and thin ones farther away. In this way you will maintain an average. and your prints will all be about the same tone.

A kerosene lamp will call for about three or four times the exposure

JAPANESE PÆONIES.

MISS E. L. MARILLIER.

A GERMAN GUM-BICHROMATE PROCESS.

All papers must be given a preliminary sizing, which should be prepared as follows:

Gelatine	96 grains
Water	10 ounces

Allow to soak for about half an hour and melt by the aid of a water bath and add in small quantities at a time:

Rectified spirit	1 ounce

Allow the solution to stand till it gets perfectly cold and then melt again for use. This allowing to get cold does away entirely with the innumerable air bubbles contained in it, which would otherwise cause little spots on the finished print.

To this size may be added if thought desirable:

Hot chrome alum 2 per cent. sol	½ ounce.

This is always used by Herr Watzek, one of the famous Viennese gum workers.

To apply this size the paper should be placed on one or two sheets of clean blotting-paper and the whole fastened down with two drawing-pins to a drawing-board, which should be propped up at a slight angle with the side on which are the drawing-pins uppermost. The size must be melted by means of a water bath and kept hot. With a broad flat brush well saturated with the size a stroke should be made all across the top edge of the paper, the brush again dipped into the size and another stroke made just touching the other, so as to even out any drops which may have collected along the edge.

It is obvious that as the gelatine solution will set quickly it is advisable to work in a warm room; the author actually advises working on the top of a hot oven. The brush must not pass over the same spot twice or a thicker coating will be given.

As regards the brushes, those recommended are a 2 to 3 inch broad flat camel's-hair for the size; a 1-inch and a 2-inch hog's-hair brush as used by painters in oil; these are used for laying on the colors, the small one for small work, the larger for larger. Two flatting or evening-out brushes are also required; a round badger hair mop and a flat brush of the same kind, the sizes being as above. Great care should always be taken to keep the brushes clean, and after use they should be always well washed repeatedly in warm water.

It is not necessary to coat the paper in a dark-room, but it must obviously be dried in one or in non-actinic light.

The gum solution is made as follows:

Best white gum arabic	4 ounces
White sugar	2 ounces
Water	10 ounces

Stir occasionally till dissolved and filter.

The actual colloid solution is:

Gum solution as above	5 ounces by weight

Fish glue	5 ounces by weight

Mix well together. Both these solutions will keep.

The sensitizer is:

Ammonium bichromate	1 ounce
Distilled water to	9 ounces 55 minims

The advantage of this salt over the corresponding potassium salt is that weight for weight it acts more strongly, there is less liability of the gum film becoming insoluble, and there is not so much chance of the salt crystallizing out.

The colors used may be either the moist cake or tube colors, but the disadvantage of these is that they are liable to dry up; it is better to use the dry powder colors, which can be obtained in a suitable state of fineness from any good artists' material warehouse.

The names of the colors that can be recommended are as follows:

Black.—Vine black, lamp black, burnt soot, ivory black and Chinese ink in syrup form.

Brown.—Terra sienna, umbre, bistre, Casseler and Vandyke. Sepia is not advised, as it will not give pure whites.

Red.—Burnt sienna, Indian red, English red, burnt ochre, caput mortuum, alizarine lake and carmine lake.

Yellow.—Bright ochre, chrome yellow, cadmium yellow, gamboge, yellow lake and stil de grain.

Blue.—Prussian, Paris and cobalt blues, indigo and ultra-marine.

The specific formula for the colored colloids is as follows:

BLACK.

Ivory black	100 grains
Lamp black	30 grains
Gum fish-glue mixture	400 grains by weight
Water	200 grains by weight

For rich deep shadows, mix one part of above with seven parts of water; for lighter prints, use ten parts of water.

As the method of mixing the colors is the same for all, it will be as well to interpolate here the correct method of mixing them. The material required consists of a sheet of ground glass, preferably ground opal, a glass muller, which can be obtained from any artists' color man, in diameter varying from 1 to 4 inches, and in price from 6d. to 2s. 6d., and also a palette knife. In the place of the latter may be used any flexible household knife.

The powders should be placed in the center of the glass and a few drops of the gum fish-glue mixture added and the two well worked with the muller, more liquid being added almost drop by drop, so as to ensure a perfect grinding of the colors. When a perfectly smooth homogeneous paste has been obtained, then the remainder of the gum can be added and mixed with the muller, and finally the water. As the muller is used it will be found that the pigments will work out to the sides of the glass and also stick round the muller; then the knife should come into play and the colors be scraped together, off glass and muller, into a heap in the middle, and again worked out.

When thoroughly mixed the mixture may be scraped up with the knife and transferred to a wide-mouthed bottle for stock. In most cases it is advisable to stir them up well with a stick or glass rod, as by standing the pigments have a great tendency to settle out.

BURNT AND TERRA SIENNA.

Color	100 grains
Gum fish-glue mixture	200 grains by weight
Water	200 grains by weight

For use mix with an equal quantity of water.

The blue colors are almost entirely used to alter the other colors, and they act very energetically, very small quantities being required to affect the resultant tint. If an actual blue is required, one may use:

Color	200 grains
Gum fish-glue mixture	100 grains by weight
Water	100 grains by weight

Sepia is best made by using burnt sienna and adding a little of the black mixture to it.

Olive green is formed with terra sienna with a little Berlin blue, and, if necessary, some black.

Black can be made warmer or colder by adding Berlin blue, and warmer by adding burnt sienna.

Reddish tones are best obtained with burnt sienna plus black, or for yellowish tints with terra sienna.

The following tip, which is not given by Dr. Gaedicke, will enable any one to at once match a color that he has once made and which specially takes his fancy. Assuming, for instance, that it is desired to make an olive green, and that the above given formula for terra sienna is used. Then weigh out a small quantity, say 20 grains, of Berlin blue, using a little square of paper on the scale pan. Lift a little of the blue on to the glass slab with the point of a dry knife, and incorporate with the paste. Keep on till after working with the muller the desired tint is obtained, always using a dry knife to add more blue. When the desired tint is reached, weigh what is left of the blue, and this subtracted from the original quantity will at once tell you how much was used and enable you to obtain the tint again.

This method should always be adopted when making fancy tints.

The paper is sensitized first and then coated with the pigment mixture. The sized paper is pinned gelatine side up with four drawing-pins to a board, and then a Buckle brush is used to apply the sensitizer. The brush should be well saturated with the chromate and rapidly moved over the surface of the paper, and this continued till the surface is equally colored and equally wet, and then excess should be blotted off with clean blotting-paper. The paper must then be dried.

The chief fault with all beginners in this process is the use of too much pigment mixture. It is astonishing how little pigment is really required; for instance, for black prints the paper when coated should show a greenish-gray appearance, and not black. It is impossible to give directions as to the precise quantity, because on the quantity depends the final result, and this is a matter of taste.

Coating the paper with the color should be done by lamp or artificial light. As much of the pigment mixture as is required must, of course, be ready mixed, and it should be placed in a saucer or palette. A broad hog's-hair brush should be thoroughly wetted with water, then as much water as possible jerked out of it, and finally it should then be passed backward and forward over a clean dry cloth so that it finally is just damp.

A drawing board covered with blotting-paper is required, and to this the paper should be fastened with pins and the brush thoroughly charged with the pigment mixture and passed rapidly across the paper in even strokes all in one direction. As soon as the paper is covered, the brush should be passed across it at right angles to the first direction, but it should not be again dipped into the pigment mixture. The second movement of the brush should be done with the brush held lightly and at only a slight angle from the perpendicular, so that it glides over the surface of the paper.

As soon as this second brushing is done, lay aside the brush, take up one of the circular badger hair softeners, and, holding it absolutely at right angles to the paper, go over the whole of the surface with light circular strokes till a perfectly even coating is obtained, and until the brush drags so much that it cannot be easily moved. Then put the paper away to dry, which will only take about an hour.

Another method of applying the color is with the aid of a glue roller, which should be as long as the narrow width of the paper. For this the colors are mixed with glycerine as follows:

Ivory black	100 grains
Lamp black	30 grains
Glycerine	195 minims

Or,

Burnt sienna	100 grains
Glycerine	90 minims

Or,

Sienna, as above	300 grains by weight
Black, as above	100 grains by weight
Gum fish-glue mixture	300 grains by weight
Glycerine	200 minims

The last color gives sepia.

The mixed colors should be placed on a sheet of plate glass and then rolled backward and forward and in all directions till a perfectly even film of color is distributed over both glass and roller. Then the roller can be rolled up and down the paper, remembering that slow rolling with pressure puts on color, and quick sharp rolling takes off color.

The operations of printing and development are too well known to require detailed description.—*The Photographic News.*

Hypo only attacks the silver image when in contact with the air, and then it takes some time, so there is no reason to fear reduction of density.

Hydrogen peroxide is less harmful, but it will attack the high lights: so will ammonium persulphate unless rendered alkaline.

EXPOSURE OF THE PLATE.

By Felix Raymer.

This is perhaps a subject that causes more confusion in the studio than almost any other, for the reason that there is so much depending upon the "time" given the plate, and the understanding of the subject is so meager in the average operator's mind, that it really is a matter of guesswork in most instances.

There is no doubt but that the exposure is of the greatest importance, but there are so many conditions that positively control the exposure, that one is tempted to say, "If you secure the right conditions under which to work, the exposure will be all right, and you need not trouble about other things."

I am asked every day of my life, "How do you determine the length of exposure to give?" Before one can possibly determine the length of exposure, he must understand the conditions prevailing in the other departments. For example, we may have a dark room, that it is almost impossible to raise the temperature high enough to call it warm, that is, high enough to do the best work in. If this is the case, the same effect in lighting, and, in fact, all other conditions the same, will require much longer time than would be so if the developing room were warmer. On the other hand, the dark room may be of an exceedingly high temperature in summer, and I have yet to see one that is not. If it is not cooled, and we try to develop in this heat, naturally the plate will require less time than the one developed in the cool room.

Now we will take another department and see how that will influence the time. The printing room must be considered, or, rather, I should say, the particular grade or class of paper that is being used in that room. When we were using the high-gloss papers, we found they required a negative *fully timed,* all the detail possible was our aim in making them, and not developed so far as is the case now for the matt papers. In other words, for a "glossy" paper our negatives require longer time than for the matt, for the reason that we want a softer, more delicate negative, to secure the best results on this class of paper. Further, what class of developer are we using in our dark room—pyro, metal, hydroquinone, or some other? All of these developing agents have a varying effect on the plates, and require differently timed negatives. It is well known that shorter exposures can be made, if metol is used, and still secure the details even in the darkest shadows.

It is equally as well known that hydroquinone will require longer exposures, but gives vigorous negatives. So, I say, let's get fully acquainted with the conditions under which we are laboring, and then adjust the exposure question.

Now, we will take a suppositious case, and presume that our dark room is unequally heated, say it ranges from sixty to seventy degrees, and that our developer is at the right temperature, from sixty-five to seventy

Without washing, the plate is again placed in a strong solution of permanganate for thirty seconds, rinsed, given two minutes in acid hypo, and washed for five minutes under the tap. It is now finished, and may be dried. This takes from ten minutes to a quarter of an hour without artificial heat. It is delicate, and should be protected by varnish or bound up with a cover glass.

This process seems elaborate, but takes less time to perform than to write. Everything is done by time except the silver intensification, and the total time necessary for all the operations is exactly twenty minutes. This is due to the extreme thinness of the film, which is instantaneously penetrated by the solutions.

The following are the formulas necessary for the manipulation of these plates:

First Development.

A.	Pyrogallol	3 gms.
	Alcohol	100 cc.
B.	Potassium bromide	3 gms.
	Liq. ammonia sp. gr. 0.92	15 cc.
	Water	85 cc.

Dissolving the Silver.

C.	Potassium permanganate	2 gms.
	Sulphuric acid	10 cc.
	Water	1,000 cc.

Second Development.

D.	Amidol	5 gms.
	Sodium sulphite anhydrous	15 gms.
	Distilled water	1,000 cc.

Oxidation.

E.	Solution C	20 cc.
	Water	1,000 cc.

Intensification.

F.	Pyrogallol	3 gms.
	Citric acid	3 gms.
	Water	1,000 cc.
G.	Silver nitrate	5 gms.
	Distilled water	100 cc.

Clearing Solution.

H.	Potassium permanganate	1 gm.
	Water	1,000 cc.

Fixing.

I.	Hypo	150 gms.
	Sodium bisulphite lye	50 cc.
	Water	1,000 cc.

Varnish.

J.	Gum dammar	20 gms.
	Benzole	100 gms.

HINTS FOR THE AMATEUR.

By Arthur B. Weeks.

Among the frequent annoyances of the darkroom for the beginner in photography is the difficulty of keeping the inside glass of the darkroom lamp clean. When the lamp is lighted, moisture condenses on the glass, and the least suspicion of smoke adds to the dimness, making it next to impossible to see through the glass.

Removing and cleaning the glass will, of course, help matters; but the trouble is liable to recur as soon as the slide is replaced. The writer has found that first heating the slide over a lamp or gas jet does away with all annoyance from the collecting of moisture. Place the orange glass next to the light with the ruby outside, thus permitting the slipping out of the ruby glass at any time when it is safe to use the orange light only. One must be sure of this point before making the exposure. The writer has lost many a good plate when the ruby glass was broken, because, knowing an orange light to be safe with certain slow plates, he supposed it would be equally satisfactory with others. Investigation showed these plates fogged in development and the work all in vain.

Consulting circulars and the instructions and advice on plate boxes gives one the feeling of a sick man reading a patent medicine almanac; almost every trouble seems an exact application to his particular case. On writing to a plate manufacturer stating my difficulties as well as possible and inclosing a bad print, as well as a good one, to show I had done good work, I was advised to use extra thickness of post-office paper. I therefore proceeded thus:

Not having a ruby glass at hand, I took a 4x5 plate which had been fogged, washed it clear of emulsion, and with the other glass for a pattern, cut the old plate accordingly. On one side of this clear glass I glued a piece of post-office paper, using a liquid glue around the edges of the glass only. On the other side I used a piece of paper of the same size, but pasted it only half-way up on the sides of the glass, so that when the glass is slipped in place with this pasted end down the free end at the top can be bent down when more light is required to examine plate and learn extent of development, returning it to place to complete the process.

With the orange glass in place I turned on the light. The new experiment was a decided success, the work being perfectly performed, with no more fogged plates and splendid development. Even when orange and ruby glasses are both used the light will still be too strong for some plates, in which case omit the first piece of paper described, but use the one thickness with free end.

A peculiar and very costly experience came to the writer as follows: I had read about the inside of plate holders being painted with a black varnish to prevent halation. I secured a black varnish for the purpose and immediately began to turn out a series of freak pictures, with only an occasional fine negative among a collection of miserable failures which were dis-

JAPANESE PÆONIES. MISS E. L. MARILLIER.

ORTHOCHROMATICS WITH NO DARK ROOM.

By Arthur Payne, F.R.P.S.

Incidentally, I plead for the extinction of the adjective "orthochromatic" as being unnecessary when applied to photography. Surely all photography ought to be orthochromatic, or color corrected. To any outside observer it must appear strange that we should continue to use the antiquated blue-sensitive plate when it is possible and easy to reproduce the subject in its true color luminosity values, and not as it would appear to us if our eyes were only sensitive to blue, violet and ultra-violet light; and yet that is what occurs when an "ordinary" plate is used.

It is encouraging to those who, like myself, have so long advocated the exclusive use of orthochromatic plates for all negative work, that so many workers have lately adopted the new and improved methods placed at their disposal by our investigators and manufacturers, and the time may be nearer than our conservative friends imagine when the word orthochromatic will have become obsolete. Then it will be necessary to refer to our present-day ordinary plates as "blue sensitive plates," and they may be so seldom used that they are only manufactured to order.

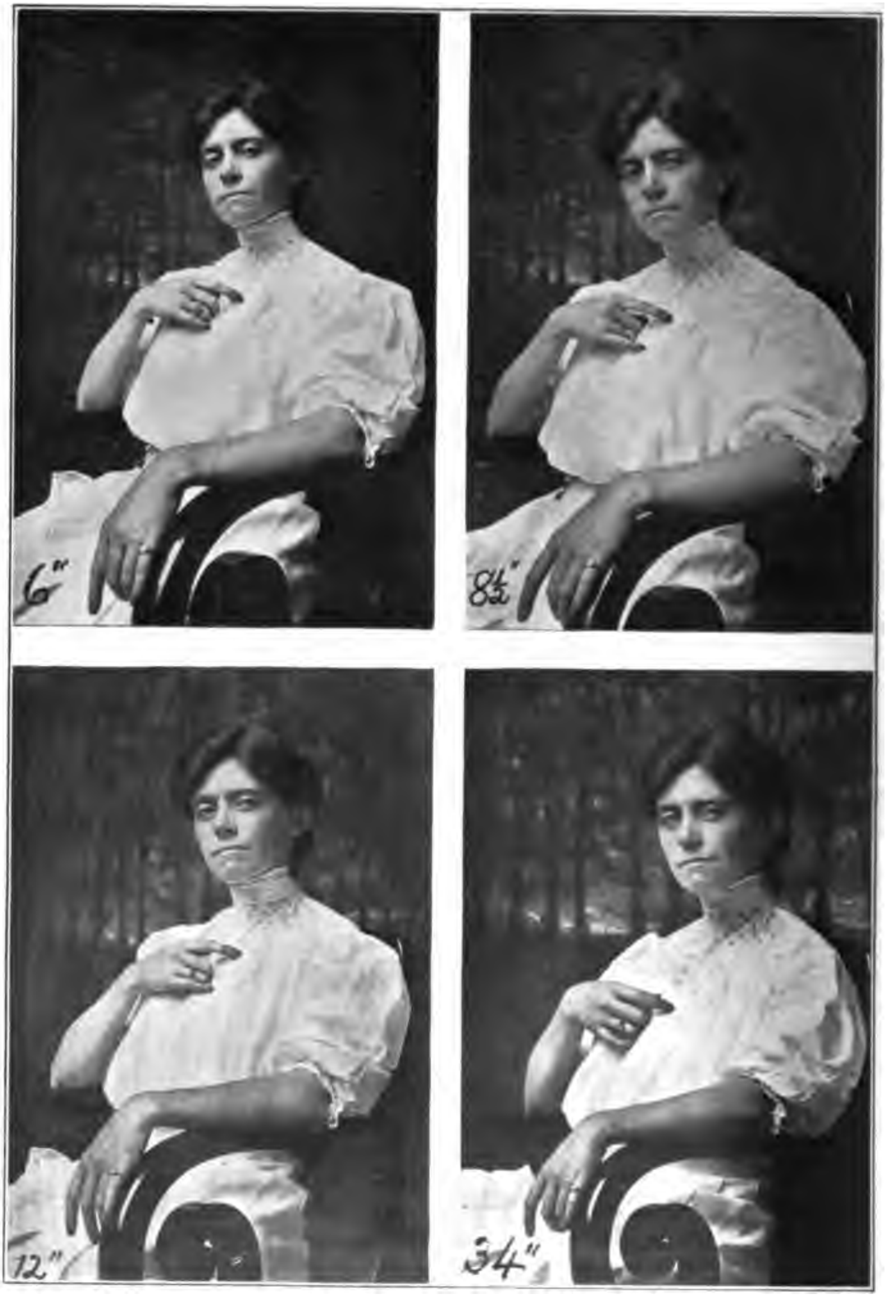
THE STRANGE OBJECTION TO ORTHO PLATES.

I must confess that I cannot understand why any one should object to use the most improved material that it is possible to procure unless it be prejudice, in which case it is foolish to allow our competitors to beat us for lack of a little moral courage. Or is it fear? Are they afraid of the difficulties of manipulating this awe-inspiring material known as Orthochromatic Plates? The name itself is enough to make the most ardent disciple of the Red Lamp quiver with apprehension; but if he will only take his courage in both hands and force himself to face the music, he will find that the terrible bogies which he imagined do not exist outside his own brain.

It is true that the neophyte must be prepared to slightly alter the method of procedure which has been found to give satisfaction prior to the change, and herein probably lies another reason which may account for the present large consumption of ordinary plates, for every one dislikes to be taken out of the groove, especially photographers. However, if the student will but follow my hints, with reasonable care and accuracy he will be surprised to find with what remarkable ease he may manipulate the dreadful color-sensitive plates.

TIME DEVELOPMENT.

In the first place, I must ask my readers to accept the principles of time development, and if there are any who still cling to the old traditions of controlling developing, by means of which, I have no doubt, they secure excellent results, will they humor me so far as to give this method a fair trial before they condemn it as being unsuitable for their class of work? This is not the place in which to give an exposition of the scientific truths upon which the principle of timing development is placed. Let it suffice to say that the method has been thoroughly tested, both in the laboratory


6"
8½"
12"
34"

perature, for the same time, that the contrast between the shadows and the high lights will always be the same, and this is independent of exposure within the usual limits. The results must be judged from the prints and not from the negatives, because an under-exposed negative may appear to be very thin, while an over-exposed negative will be dense and take a long time to print, but the contrast in the prints will be about equal in both cases. It is not necessary to use any special brand of plate or developer in order to try this simple method of working; just continue to use the brand of plates and the developer to which you are accustomed.

METHOD IN TIME DEVELOPMENT.

As I have said, the procedure of developing by time is very simple, and is conducted as follows: Mix the normal developer and carefully take its temperature with a glass chemical thermometer, which may be purchased for a couple of shillings; pour the developer over the plate and quickly cover the dish, rocking it for four minutes, after which the plate must be rinsed, fixed and dried; then make a print from the negative in the printing medium which you use, and *judge the result from the print.* If the contrasts are too great, so that the shadows are clogged before the high lights are fully printed, repeat the experiment, only developing for three minutes instead of four minutes, but using fresh developer of the same composition and at the same temperature. On the other hand, if there is not sufficient contrast in the print, the plates must be developed for a longer period. In this manner the correct time of development may speedily be found for every combination of plate and developer, and at any temperature.

The temperature of the developer must not be allowed to exceed 75 degrees Fahr., or the gelatine emulsion will melt, nor, on the other hand, must it be too low, as below 55 degrees Fahr., or development will be unduly prolonged, the rapidity of development increasing with the rise of temperature. It may be advisable to mention that a portrait negative usually has less contrast than a landscape negative, meaning, of course, that it is developed for a shorter time, and that a carbon print requires more contrast than platinotype, which in its turn wants more contrast than a silver print.

WINTER WORK.

The winter months are a capital time in which to experiment in orthochromatic photography, as the most telling examples of correct color rendering are obtained from flower and still-life studies, and in copying pictures and posters, and I would recommend that those who are interested in this work should procure a box of color-sensitive plates, together with one of the free light filters which several of the manufacturers are now giving to their customers for experimental purposes, and make a few exposures both with and without the light filter in order to see for themselves the value of the new powers which are at their disposal.

In conclusion, I wish to mention that for some as yet unexplained reason it is necessary to develop the orthochromatic plate when used without the light filter for a longer time than when the light filter is used, in order to get the same degree of contrast in the negative, and consequently in the print.—*The Photographic News.*

PRINTS ON STALE PLATINUM PAPER.

By John Bartlett.

It goes without saying that the best results in platinum are to be had only with the use of fresh paper.

Every effort is therefore made to protect the sensitive surface from any action which might tend to impair the vigor of the print.

But despite the care of the manufacturers as well as the users of the paper its keeping qualities are by no means on a par with that of bromide paper. Platinum paper deteriorates after a few months even when kept in sealed tubes, and the stale paper can only be employed by the votaries of æsthetic feeling in photography. While the advocates for softness and lack of gradation may be artistically justifiable in their preference, the majority of workers are more desirous of bright, crisp impressions from their negatives. Several methods have been proposed for utilizing the paper after its deterioration, but the results, in my judgment, are not such as a practical photographer would consider worth keeping.

The method generally recommended is the addition of a certain percentage of bichromate of potassium to the oxalate of potassium developer, which seems to act as a sort of retarding agent, but the results are by no means pleasing, and indeed it is only efficacious with paper not too stale.

Where the method does succeed there is a certain harshness and lack of half-tone which would condemn the print at once by any one having an appreciation of the beautiful softness and richness of a fresh platinum paper print.

Instead of the bichromate of potassium—that is, the acid salt, I employ the neutral chromate of potassium, a salt not so generally used in the art as the bichromate, and therefore not as well known. It is distinguished from the bichromate by its canary-yellow color, the bichromate being an of an orange tint.

The maximum amount is one-half grain of the potassium chromate to the ounce of oxalate developer diluted with one-third water. But this I might say is for desperate cases, such as the examples I here show.

The paper, as you may see from the date on the can, is over five years old, and yet I have been able to produce a comparatively bright picture, a trifle hard perhaps, but certainly vastly superior to examples accompanying it, made upon paper treated to a development by the other method suggested for improvement of old paper.

Few of us have paper as old as the specimens exhibited, and it was only by an accidental discovery in the archives of the Society that I lighted upon the antique samples.

For paper a year or two old I would recommend one-half grain to every two ounces of diluted developer.

Of course, a little judgment will be needed, as an excess has a tendency to give harshness.

The formula, by the way, might be advantageously used to secure vigorous prints from weak negatives.

The addition of the chromate of potassium to the oxalate developer in no way interferes with its keeping qualities. It may be used repeatedly and bottled up and labeled "developer for old prints."

I may add that I found the suggestion of Mr. Zimmerman, to use hot acid to remove the iron salt, added to the brilliancy of the print, but I prefer acetic acid to hydrochloric, as it is not so volatile when subjected to heat.—*Journal of The Photographic Society of Philadelphia.*

EIKONOGEN FOR WARM TONES ON GASLIGHT PAPER.

Eikonogen (writes Mr. Laurence Grose in *Photography*) is a developer that may be said to have gone out of date somewhat, and it is used comparatively seldom for negatives, and very seldom indeed for bromide or gaslight papers, owing to some fancied unsuitability. It is probably not generally known that it is an excellent developer for warm tones on gaslight papers; and, in fact, it was only after trying almost all other developers for the production of warm tones by direct development that the writer was led to employ eikonogen, which he then found to be more suitable for that purpose than most others, and a very long way indeed in advance of the majority. The developer originally employed was a single solution formula intended for ordinary negative work, and was of the following composition:—Eikonogen, 150 grs.; sodium sulphite (crystals), 1½ ozs.; potassium carbonate, ½ oz.; water, to 12 ozs. For rich sepia tones the exposure required for this developer is eight times the normal. The development is well under control, and occupies usually about two minutes. Stock solution, 1 oz.; water, 4 ozs.; potassium bromide solution (10 per cent.), 40 minims. For pure red-brown tones, the exposure in this case is twelve times the normal. The development occupies from two to three minutes. Stock solution, 1 oz.; water, 3 ozs.; potassium bromide solution (10 per cent.), 80 minims. The following developer will be found to give from red-brown to red-chalk tones on most gaslight papers, the exposure being the same as in the last instance. Development takes from three to four minutes to complete. Stock solution, 1 oz.; water, 3 ozs.; potassium bromide solution (10 per cent.), 80 minims; liquid ammonia (.880), 30 minims. Mr. Grose always says that a more serious drawback than loss of density is the loss of quality—that is to say, the degradation of the richness and color of the print which takes place when it is immersed in the fixing bath. What may once have appeared to be a brilliant red-brown print becomes of a disagreeable orange color immediately it is placed in the hypo. This can be obviated to a very great extent by the use of an acid fixing bath, such, indeed, as is recommended with almost all gaslight papers. In this the prints are subjected to a somewhat prolonged fixation, during which they will be found partly to regain their lost quality.

A grooved lead tank is the most convenient fixing trough if many plates are being handled.

Iodine with iodide, which was recommended some years back, is useless, or it only converts the hypo into a salt more difficult of removal.

THE USE OF SALTS OF COPPER IN PRINTING.

By John Bartlett.

The salts of copper have frequently been employed associated with other more sensitive chlorides of the metals as a medium for printing.

The pictures produced, though pleasing, are hardly of a practical value, the time required to make impressions under a negative being much more than that for silver or iron salts. It is well known that the basis of the platinum prints—that is, the image produced on the paper, is really an iron image, a ferric salt being used to precipitate the platinum salt in the oxalate developer.

The idea suggested itself to make use of an iron image and instead of platinum to deposit copper upon it.

I wish here briefly to call attention to a few tentative experiments, hoping to pursue the matter at a future time more thoroughly. The results as you may see are encouraging.

As with the platinum papers I make use of a ferric salt, which during the process of printing is reduced by the light to a ferrous state, and by having associated with it a cupric salt greatly in excess, during the process of development a deposit is made upon the iron image which is quite as permanent as platinum. Quite a number of tones can be had by slight modification of the developing agent.

The sensitizer consists of cupric chloride in excess, ferric chloride and ferric nitrate, made decidedly acid.

The paper is even more sensitive than ordinary printing-out silver paper and about one-half less exposure is required.

The sensitized paper keeps indefinitely, but the exposed print must be developed very shortly after completion. The developer consists principally of sulpho-cyanide of potassium.

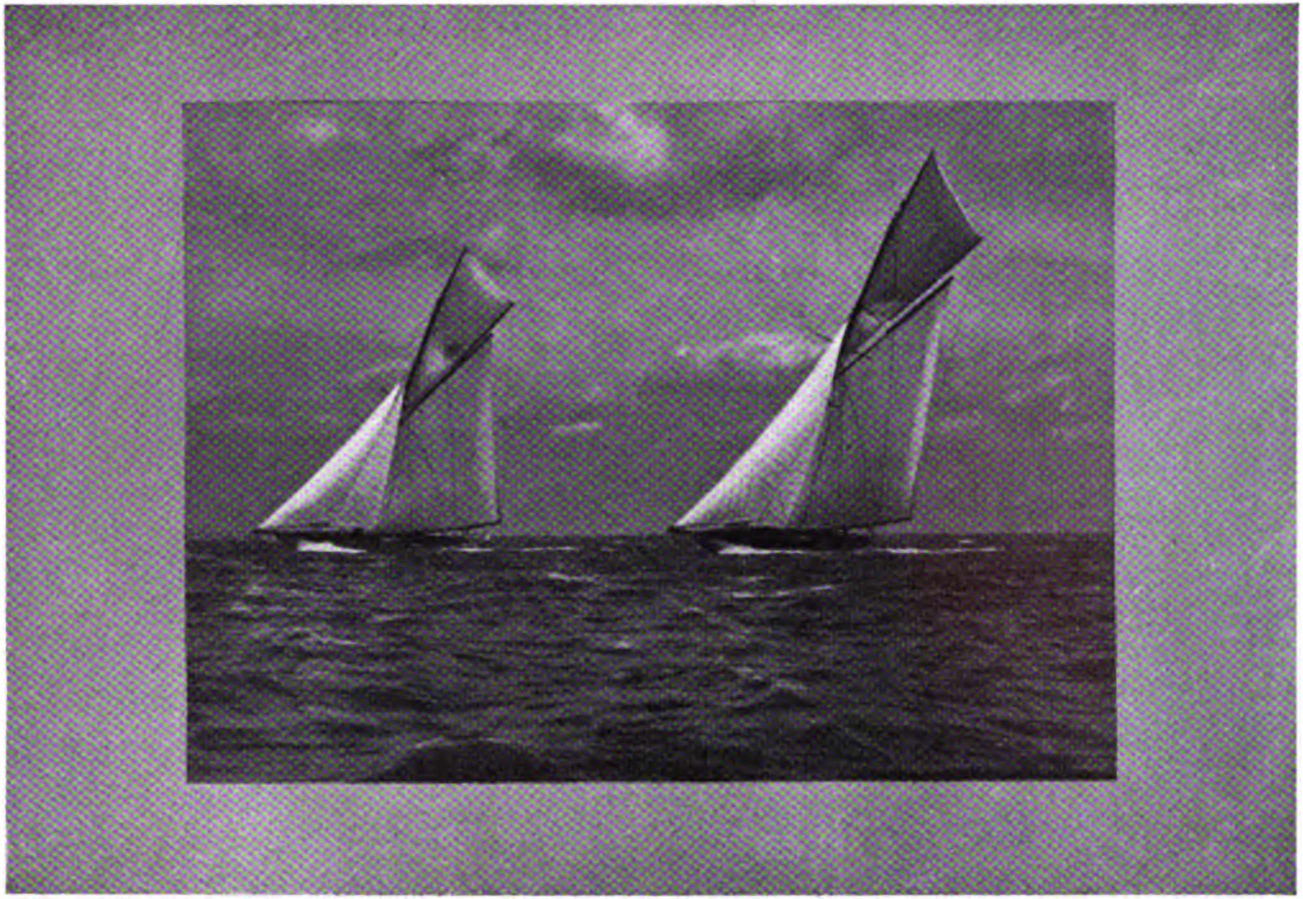
To understand the action of this agent we should remember that the image formed is the reduced ferric salt to a ferrous salt; the cupric chloride undergoing no change.

Insoluble sulpho-cyanide of copper is precipitated on the image, while soluble sulpho-cyanide lies upon the unreduced salt of iron, which is taken up by the excess of the sulpho-cyanide.

The sulpho-cyanide of copper is a somewhat coppery colored image, not unpleasant for certain subjects, but it is possible to make a variety of tints from purple and brown to sepia, red and black, by little changes in manipulation.

I have merely called attention to the subject now to provoke some discussion, hoping to pursue the experiments later on, when I shall report to the Technical Committee. I would suggest that those interested in technical matters might report their experience.—*Journal of The Photographic Society of Philadelphia.*

Methylated spirit is one of the press photographer's best friends.



A CLOSE FINISH F. J. MORTIMER, F. R. P. S.

EDITORIAL NOTE AND COMMENT.

"O wad some power the giftie gie us
To see oursel as the camera sees us.
It wad frae mony a blunder free us,
An' foolish notion."

The gift that the poet so desired would have saved one of the denizens of Cleveland from "the foolish notion" that induced him to ask the court for an interdict to prevent a Cleveland photographer from collecting the price of photographs of himself. The reason he gave to the judge for his desire to evade payment was that "They show a homelier man than I am, I can hardly recognize myself when I look at the photographs." The photographer admitted that he had retouched the negatives and made the pictures really look better than the original, and the judge took the same view, declaring that they were "prettier" which, of course, condemned the sitter to pay not only the price of the photographs but also the cost of the action. The sitter, however, is a fighter, and declares that he will carry the question to the Common Pleas Court, and we shall see what we shall see.

* * *

Wonders will never cease. According to a trade paper in Germany, a firm in Friedenau has introduced an anastigmat with a working aperture of f-1.5 and to think of it almost takes our breath away; especially when it is added that the definition and covering power are better than anything else that has been constructed. But we have learned not to put full faith in all that appears even in trade journals.

* * *

It is both amazing and amusing to see how, a mistaken idea once getting into the public head, how difficult it is to remove it or to substitute for it a correct one. In nothing more is this clearly seen than in the obstinate way in which the belief in Daguerre's influence on present day photography again and again slips up.

That "the man on the street" should know no better is not to be wondered at, but those connected with photography and those who aim at writing about it should be equally ignorant is amazing. The most recent offender that I have come across is Professor Beck, who has written a book on "Art Principles In Portrait Photography," and I believe an excellent book, although I have not seen it; but he shows at the very beginning that he has not been sufficiently careful to make himself acquainted with his subject or rather the very foundation of it. What shall we think of a writer writing to photographers who says that "The processes inherited from Daguerre remain practically unchanged to-day"? The "processes" of Daguerre were forgotten within a few years after they were made public, as, aside from the fact that the picture could only be seen from a certain angle and was so

LUNCH TIME R. R. SALLOWS

delicate that it could not bear a touch, in the absence of the negative admitting of endless reproduction, photography could have never been more than a curiosity.

Had the Professor said Talbot instead of Daguerre he would have been nearer the mark, as in absolute fact the method of to-day is that of Talbot with slight modifications. Nor does that apply only to the negative with its means of reproduction, but also to most of what is now known as photo-engraving. I may add that I have before me now some of his earliest proofs received from his own hand, and they are quite equal to most of the work of the present time whether known as photogravure or by any other name.

* * *

Charles F. Curzon, in *The Amateur Photographer,* tells of the old method of using waste negatives to make carbon transparencies, and many a beautiful lamp shade and other useful things have I seen, things of great beauty at little cost and much delightful labor. It may be told in a few words, although he occupies nearly a page. Clean the glass thoroughly, make a solution of gelatine, he says Nelson's No. 1, of 5 per cent., and while still hot add sufficient of a 5 per cent. solution of potassium bichromate to make it of a straw color. The cleaned plate must now be warmed and coated with a solution as it was usual to coat the plates with collodion. Keep level till set, and then stand up till dry. These plates may be printed under negatives and developed with warm water just as carbon tissue, and the result is indeed beautiful. So far all is well, but the writer makes one mistake which is really the cause of my noticing the matter, and I do so to prevent some one following his advice to make a large stock of the plates and keep them on hand as so much P. O. P., to be printed when required as *they will keep indefinitely.* The last sentence I have underlined as in it lies the mistake; the plates will not keep longer than would carbon tissue, and the man who lays in a stock of them will soon find the gelatine insoluble and his work, so far, in vain.

* * *

The Amateur Photographer says "Everyone who has received a tightly wrapped up roll of photographs or papers knows how difficult it sometimes is to remove the outer wrapper without cutting or tearing the contents; one of the latest ways of obviating this is to have a thin piece of string glued to the inside of the wrapper, with a short end projecting; by pulling back the string the wrapper is opened without further ado." Everyone who *must* wrap anything in the form of a roll should paste this inside their hats. Its use will prevent oceans of bad language.

* * *

Here is a little wrinkle that may be of use to some curious one wishing to know the focal length of the lens by which any particular picture was made when no other means are available. I cut it from *The Amateur Photographer,* part of a report of an interview of the well-known Alfred Watkins of exposure, meter and developing factor fame. Here is what the reporter says: As we were looking over an album of his records he demonstrated the interesting little fact, which may be new to many readers, that by looking at a print it is possible to tell accurately the length of focus with which it was taken. If a print be moved backwards and forwards it will be found that there is a point at which it becomes more stereoscopic than at any other, and the distance of the print from the eye at that point is exactly the same as the original focal length.

* * *

The next best thing to not making a mistake is to acknowledge one when it is made, and to, if possible, repair any ill that it had done. The following letter from a valued correspondent, overlooked in some unaccountable way, gives me the opportunity to say to the "Professor" how sorry I am that I should so misunderstand what in the paragraph quoted should have seemed so clear. Those who care to refer to the paragraph on page 120 of our February number will see that instead of understanding the Professor to mean that by placing the finger against the part of the negative that was intended to print perfectly white to make sure that it was quite opaque, I supposed that he meant to give the finger as an example of what should be so opaque. For this mistake, as for most others, there is an explanation that would materially lessen the fault; but I prefer to take all the responsibility and content myself with apologizing to the Professor and thanking my esteemed correspondent.

TO "THE WATCHMAN" (AMERICAN PHOTOGRAPHY).

Watchman, dost weary of thy watching?
Long hast thou sat upon thy tower,
Keen-eyed, to pounce upon
The luckless erring one
And rend him.
  Thy strictures just,
Loud our applause hath been,
And great our glee;
But in thine issue of the second month
Of this new year,
And in the paragraph
That doth precede the last,
Thou pouncest poorly, Sir,
And rendest without reason;
The which thou'lt surely see
If thou dost read again
The worthy Doctor's writing,
And, reading it, read *"It."*

F. C. Baker.

To Mr. Baker, and to the many others who take the trouble to write to me I extend my most heartfelt thanks, especially those who have or think they have something of which to complain. Those who sing my praise tell me nothing new, as I have just as much egotism as the most; but my faults I do not see so clearly and those who tell me of them do me the greatest benefit that one can do to another.

* * *

That veteran in color photography, M. Louis Ducos du Hauron, is out again with another color method, or rather a modification of one of his previous suggestions, something like what is more popularly known as the

"Joly's," and something like the more recent one introduced by Lumière. The following, from the *Bulletin* of the French Photographic Society will give some idea of it: "The plates are plotted out, or covered with a miscroscopic mosaic of exactly adjusted areas of green, blue violet and reddish orange. This 'omnicolore' surface is first coated with a layer of protective varnish and then with a panchromatic emulsion. Exposure is through the glass support and consequently through the color mosaic, and a general color screen has to be used to cut out ultra-violet and some extreme blue, the density of this being regulated according to the sensitiveness of the plate. In sunshine, and with a lens of large aperture, the exposure may be as short as one-tenth of a second, and development may be by means of any ordinary developer, but the development should be conducted in darkness, after which the plate is washed and the silver negative image is oxidized to chromate by means of an acidified solution of potassium bichromate; then after another washing the silver chromate image is dissolved out by means of a 20 per cent. solution of sodium sulphite, this leaving a positive image in the original silver bromide of the plate, but imperfect owing to excess of silver bromide. After renewed washing the plate is immersed film downward in the original developing solution, and white or yellowish light from a lamp is allowed to shine on the film through the mosaic of color. When the positive is sufficiently developed and the plate is fixed, the heliochrome is complete."

* * *

OUR PRIZE COMPETITIONS.

No award is made in the Instantaneous Competition. A number of prints were received, but none was of sufficient technical or artistic merit to equal our prize standard. Most of the pictures submitted were of locomotives or trotting horses, and were of little pictorial value, even if they had been well made.

The competition for Pinhole Pictures, announced to close August 1, is extended to September 1, and will be combined with the August competition, subject Animals. Therefore, pictures of either character may be sent to F. R. Fraprie, 6 Beacon street, Boston, Mass., until September 1.

These competitions are open to any photographer, whether a subscriber to AMERICAN PHOTOGRAPHY or not.

The first and second prize winners will be awarded bronze medals. The first prize winner, in addition to the sum of five dollars, will receive a bronze medal with blue ribbon and silver bar. The second prize winner a bronze medal with red ribbon and bronze bar. Those submitting good work, but not sufficiently high to warrant a prize, are accorded honorable mention. Pictures awarded prizes or honorable mention may be reproduced, and unsuccessful pictures will be returned if requested.

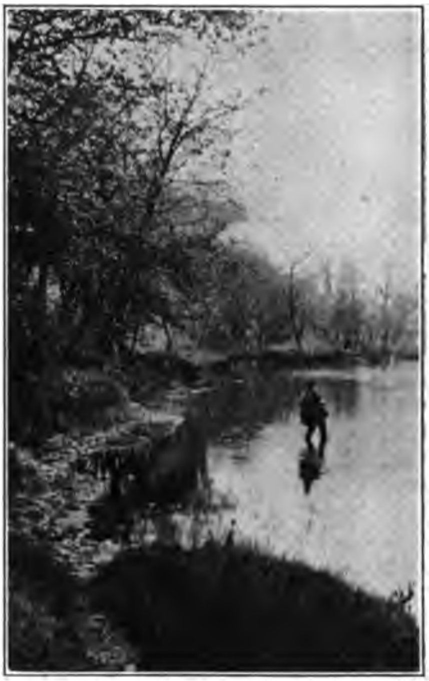
Future subjects are: For August, Animal or Pinhole Pictures; closes September 1. For September, Marines, including Views of the Sea or Great Lakes, Shipping, Yachts and Harbor Scenes. For October, Mountains; also Calendar Competition. For November, Atmospheric Effects, including Fog, Mist, Rainy or Snowy Days, Rainbows, Sundogs, Clouds, etc. For December, Genre. For January, Portraits. For February, Snow Scenes.

OUR PORTFOLIO.

Prints for criticism under this heading should be sent to Dr. John Nicol Tioga Centre, N. Y. Only one by each reader will be criticised each month, and if more are sent the surplus will go to the waste basket. Mr. Fraprie and Mr Chalmers will also criticise prints if sent to them at the addresses given on the contents page

24. H. A. C.—Your unnamed print shows little of pictorial merit, and is defective in focusing in that objects apparently in the same plane show great differences of definition. In general the print shows underexposure and overdevelopment.

25. H. Harvey.—The unnamed picture has some good qualities and a few faults that might have easily been avoided. The subject is good, but the figure should have been approaching the land rather than going further into the water where there is no visible suggestion as to his object. Then, he would have been more useful as a help to balance the trees on the left if he had been a little nearer the right margin of the print. The main fault, however, is the all too white sky and water, both, indeed, little better than white paper—not the fault, as is too commonly the case, of under-exposure, but of developing with a solution too strong in the reducer. With a solution half the strength you would have got all the detail you have here long before both sky and water had, by accumulation, become opaque in the negative. Neither sky or water are properly represented by white paper or high lights, and when that occurs it should always be lowered in tone in the printing, although, of course, it is better to see to that in the development of the negative.



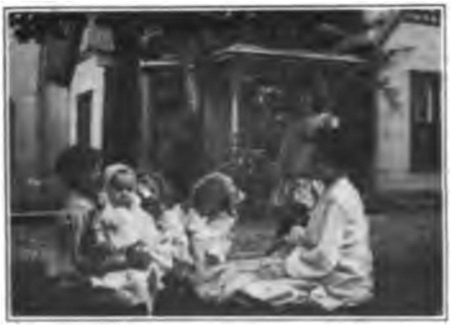
25 H. Harvey

26. C. J. Hollands.—"A Silent Pool" is an excellent photograph of the record of fact variety, but without any claim to the pictorial, although it would have been a little better with a longer exposure; the trees were never so black in the light under which the exposure was made. You don't seem to understand that such a stop as U. S. 128 (f-45) has long been abandoned in pictorial work, such small diaphragms giving a depth of focus that makes the distant objects as sharp as those in the immediate foreground, preventing a trace of the atmosphere so essential to a picture. Half the exposure with U. S. 16, which is also f-16, would have given you a better negative for the production of a picture. We take photography too seriously to waste our time with such photographs as "Down from the Clouds" further than to say that it is clever.

27. Jules A. Bourquin.—The group of children is hardly a subject for criticism

26 A SILENT POOL C. J. HOLLANDS

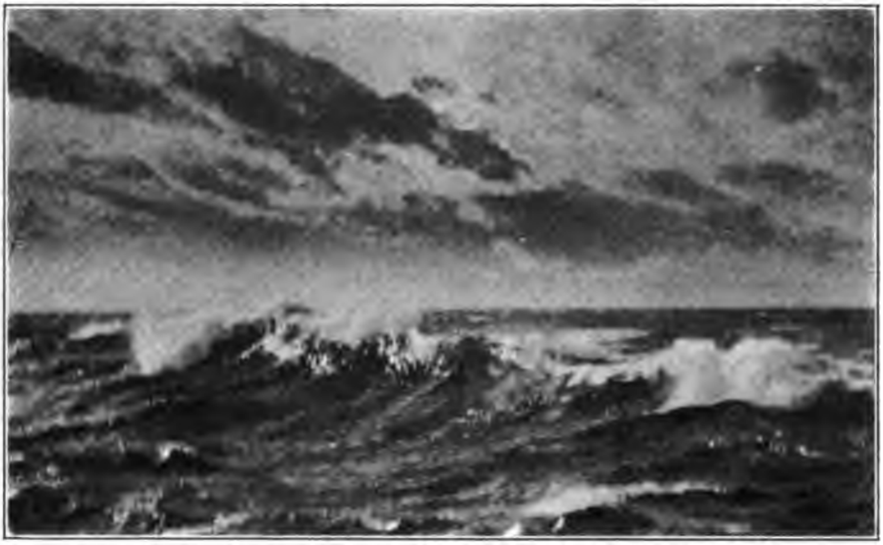
except to say that it appears to be too deeply printed, and that you have broken what is generally considered a rule in grouping, the placing of two heads in a vertical line, as is the case of the two figures on the right. Of course you notice that you were careless in your arrangement, else the face of one of the children would not have been hidden, as it is, behind another. We know, of course, how difficult it sometimes is to photograph a group of children, but having made such a mistake, we could not have rested until we had obviated it. Too many of our friends are satisfied with what they think they "can get" instead of persevering until they get what they want.



27 J. A. BOURQUIN

28. **Frank Smith.**—"Apple Blossoms." We find it difficult to say anything favorable of this. In the first place, apple blossoms bunched as this is are never at their best, never so effective as a spray, a single branch with its natural bendings; and in this the exposure has been much too short and development far too long. Look at the photograph again and you will see that the blossom, every leaf of it, is simply white paper while the leaves are simply black. It may be that the exposure has been sufficient had development been carried on with proper care; with a very weak solution and perseverance till the natural detail of the leaves was procured without the lights, becoming quite opaque in the negative. Flower photography at the best is one of the lowest phases of art, and without the utmost delicate detail and artistic arrangement is never worth printing.

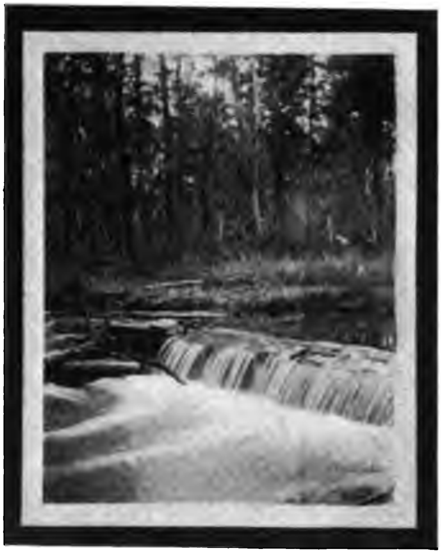
29. **Roger D. Thomson.**—"A Woodland Stream" would have been better described as "A Weir," the overflow from which is one of the best renderings of falling water that we have seen for some



31 A STORM AT SEA CARL KREBS

time. But it can hardly be classed as a "picture," a record of fact being the more proper title; and as such we may say that we have not seen a better or more pleasing photograph for many a day. We may take this opportunity of saying that when in criticising just such photographs and saying of them just what we have said of this, their authors have time and again asked us what was the difference between the print that was a picture and one that was not? A picture should have some particular point or object of special and peculiar interest, and that all else should in some way lead up to it and be in some way or other connected with it. A picture should also, if a landscape, have some indication of atmosphere, some difference in the detail between the objects in the extreme distance and the immediate foreground, not, as in this, have the trees in the distance as well defined as the water in the foreground. This latter fault arises often from the use of a too small stop as well as improper focusing. At the same time it should not be forgotten that prints that are simply records of fact are often, indeed frequently, of more real importance than when efforts have been made to give them pictorial qualities.

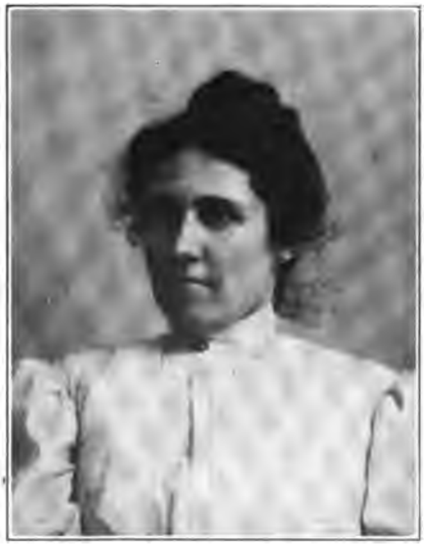
30. C. H. BROOK.—"Chums," a child and dog lying together, the latter being so indistinct as to need guessing; and the negative is neither so thin or the printing



29 R. D. THOMSON

so poorly managed as to make only a very poor grey print. There is no way of posing a child and a dog as good as letting them pose themselves as you have done; but, judging from the poor print without seeing the negative, we should say that you had stopped the development of the negative too soon, that the negative is too weak to give a good print; and therefore we conclude that it is a good subject spoiled from a too short development.

31. CARL KREBS.—"Storm at Sea." Only those who have made the attempt know how difficult it is from on board a vessel in midocean to make an exposure that shall result in conveying anything like an adequate idea of a storm at sea; and the results of few such attempts as we have seen have rarely been anything like so effective as this. We have crossed the ocean often enough to have seen most kind of storms, and have tried to photograph them too; but never succeeded so well in conveying the idea of wildly rolling water as is shown in this. Nor is that all. The sky in such scenes is generally of as much importance as the water, and its influences more studied by the mariner; and here we have just the kind of sky that we should expect to be over such a commotion. Altogether the idea of a storm at sea is shown here in a way only realized by those who have come through it.



33 JAMES TRAVFR

32. R. H. BEIL.—The unnamed print seems like building a boat, a record of fact with nothing to criticise excepting the technique or the photography; and the criticism may be included in a single phrase, "very much under exposed." Surely you never, in the light of day saw anything so black as is here in everything not under direct light. There is not, indeed, a single shadow, everything that should be such being as black as paper can be made, while what should be sky is paper equally white. An exposure two or three times as long, a lens working at a larger aperture, a quicker plate, or better light would have made all the necessary difference.

33. JAMES TRAVER.—The portrait is what may be called a fair sample of the work of a third rate professional photographer whose business lay amongst a small farming community, and one that to them would be thoroughly satisfactory; a good likeness being with such a *sine qua non*, and this has all the appearance of being that. The figure sits "square on," cut off on a line a little below the elbows and each arm exactly like the other. In other words, no attempt has been made to pose the figure or if there had been it was without knowledge; and the shirt waist attracts quite as much, if not more attention as the face. But the latter is better, much better, than usual under such circumstances, as there is no evidence that she is looking at the camera or even thinking of being photographed. The photography is very good.

34. DONALD E. MATHESON.—"Daisies" are two excellent renderings of a simple subject. The shade of background is well chosen and also the lighting as is shown by the excellent relief—the flowers standing out with almost stereoscopic effect. —C.

OUR TABLE.

Material for examination and books for review may be sent to any of the editors.

Art Principles in Portrait Photography. Composition, Treatment of Backgrounds, and the Processes Involved in Manipulating the Plate. By Otto Walter Beck. New York, Baker & Taylor, 1907. Price, $3 net; postage, 25 cents.

This book has been widely heralded, and much was expected of it. The author has lectured much before professional photographers, and has evolved decided theories of art as applied to professional portrait photography which have received much applause at photographic conventions. Hence this book. A careful reading leaves us filled with mixed emotions. The gradual development of his theory as applied to the arrangement of spots and lines is excellent, and should lead the careful student to valuable results if applied to his own work. When he comes to the principle of stability, however, we think that his treatment is superficial, and some of his conclusions forced. To us it seems that stability is to be gained in other ways than by the spider-web process of throwing out feelers to the edge of the picture space. This is elevating the frame to an eminence which it does not deserve.

The author's condemnation of the average background is fully deserved, but in escaping from Scylla he has shipwrecked on Charybdis in the examples he reproduces. Many of Mr. Beck's created backgrounds are even worse than the painted ones he abhors. In this lies the danger of the book for general reading. Gifted with the fatal facility of working on a negative with sure touch and good drawing, Mr. Beck has drifted into the mistake of advocating all sorts of changes in the negative which completely mask its photographic truth. He not only alters tonal values at will, paints backgrounds in and out, and corrects obvious defects, but he absolutely destroys likenesses, changes expressions, and puts new clothes on his puppets. This may be a good thing commercially, *when well done*. The professional photographer who could change his negatives as these illustrations have been changed would undoubtedly reap a harvest. But even the author, trained in artistic work, goes wrong in half his examples. He introduces a jumble of meaningless scrolls denominated "foils," puts floating clouds into the background to tie the figure to the frame, paints in imitation windows which are worse than a scene painter could do, and generally maltreats the surroundings of his heads.

We protest that this is not photography, though done with ferricyanide or spotting medium. Photography has nothing to gain by degrading its pure drawing to a resemble to *gouache*, distemper or whitewash. A photographic face combined with a background and accessories manifestly produced by another medium is an artistic abomination, and Mr. Beck is sowing seeds of artistic disaster in the minds of many a photographer. Unfortunately, we have no doubt his sowing will find a ready soil; the professional tendency is all this way, and many amateurs are only too ready to apply his methods to their work, in the hope of producing Salon pictures. For the professional we have no concern; his business is to produce something which will please the public, and portraits *à la* Beck, being new, and, when well done, most pleasing to the vanity of the pictured, will bring good prices. As for the amateur, we can only hope that juries will so frown on his crude attempts that he will abandon them.

We believe that this book will prove an excellent working guide for the professional, but the most dangerous artistic trap set in the amateur's way these many moons.—F. R. F.

FROM THE ILLINOIS COLLEGE OF PHOTOGRAPHY AND PHOTO-ENGRAVING we have the usual Monthly Circular with its usual tale of progress, so usual, indeed, that it might almost be stereotyped. Professor Bissell, the Principal, had been attending the Photo-Engravers' Convention at Washington, where he had reported on the success of that branch at his College, and had taken advantage of the trip to visit New York and the Jamestown Exposition. A student of '04 had been intrusted with the three-color work of a large engraving plant in Akron, Ohio, another student has been started as a demonstrator by the Eastman Kodak Co.. and the students' Y. M. C. A. has moved into handsome new quarters recently vacated by the Commercial Club.

The one exception to the usual cheerful notes of the circular is the record of a visit of a student of '03 who had been in successful business in Pittsburg and who had lost his studio by fire without insurance. Every now and then we hear of such a calamity and our heart goes out in sympathy with the unfortunate one, while at the same time we have the feeling that he hardly deserves it. No man owning a dollar has a right to have a studio or any other building without an insurance thereon, as he is risking what is not his to risk.

FROM A LATER CIRCULAR we learn that during the month a family party of forty students visited St. Louis and had a right jolly time. Mr. Cramer, Mr. Hyatt, and other St. Louis friends kept them busy from morning till night, including a theater party, and the day is not likely to be forgotten. The students have been entertained and instructed by the usual visits of demonstrators; and the usual number of graduates have gone into their life work, some on their own account and some as assistants, but all well equipped for what may be before them.

THE PHOTO-MINIATURE, NO. 79. "The Choice and Use of Photographic Lenses." This is one of the best of the series, and equally useful to the beginner and the experienced photographer; as, curiously enough, the professional at least knows less about his lenses than any other tool or material with which he works. While the little book does not tell all that is known about lenses nor all that the photographer should know, it is sufficient to give to its readers that "hunger-thirst" for more information, and at its close gives a list of the books that will thoroughly satisfy it. It is equally valuable to the professional and the amateur, and neither will ever grudge the twenty-five cents which he will spend for it.

THE YEAR-BOOK OF PHOTOGRAPHY, 1907-8, contains a very complete series of monographs on photographic subjects that usually call for attention at the amateur's hands. These subjects are those generally chosen by the organizers of exhibitions, and include "Landscape Photography," by J C. Warburg; "Portrait and Figure Photography," by C. H. Hewitt, F.R.P.S.; "Architectural Photography," by H. W. Bennett, F.R.P.S.; "Still Life Photography," by Ed. Seymour; and "Marine and Yacht Photography," by the Editor. These form one section only of the book.

The Editor (F. J. Mortimer, F.R.P.S.) has got together a most complete résumé of the year's work, and a Review of Photography for the past twelve months is a new feature.

The section of the Year-Book devoted to photographic formulæ and data—always a popular feature with the practical worker who wants a handy book of complete reference for the dark-room and in the field—has again been revised and brought up to date for all purposes, and is the best thing of its kind now published.

The illustrations are numerous and admirably printed, being well up to the high standard that Mr. Mortimer has set for *The Photographic News*, and the index is not the least useful part of the volume, as it is very full and complete, and enables any reference to be made with the greatest ease.

The American publishers are G. Gennert of New York, and the book is to be had from any supply house.

SOCIETY NEWS.

Reports of meetings and exhibitions and announcements of forthcoming events are solicited for publication under this heading.

EXHIBITION AT TAUNTON.—In connection with the annual fair at Taunton, Mass., Septemebr 17, 18, 19 and 20, there will be an exhibition of photographs in which all amateur photographers are cordially invited to participate. The competition will be in two divisions, salon and general. In the salon there will be classes for portraiture, genre and landscape. In the general classes pictures of all kinds are invited. In each class there will be first, second, third and fourth prizes of ten, five, three and two dollars and a special prize of ten dollars for the best collection of six photographs of a series. In past years the leading camera clubs of New England have been represented at this show, which is visited annually by sixty to eighty thousand people. This year it is desired to widen the scope of the exhibit and work will be received from all parts of the country. Entries close September 14th. Further information may be had of John Truex, Taunton, Mass.

* * *

THE PRINT INTERCHANGE.—This Interchange was organized in the spring of 1907 and is composed of eight or nine clubs operating somewhat on the lines of the American Lantern Slide Interchange. The clubs at present interested are Pittsburg, Washington, D. C., Chicago, Buffalo, Portland, Me., Boston, Philadelphia and Baltimore. It is expected others will join. The rules and regulations are now being voted on. From Mr. O. C. Reiter, of Pittsburg, one of the principal movers in the organization, we have the following information:

Each club selects its own exhibit and supplies fifty prints each year. Prints are mounted, not framed or glassed, ready for hanging, and are put in a substantial portfolio. The expense of transportation is averaged at the end of the season, as in the American Lantern Slide Interchange, but this will be small. The itinerary for the season is arranged at the outset, that is to say, a certain club will have the Washington set at a fixed date, and every other club the same. This avoids all confusion, as on the fixed date each club must ship the portfolio to the next point. Thus each club will have a print exhibit of about two weeks' duration for each month. A book for criticisms accompanies each set. It is probable that a managing secretary will be the sole officer needed.

* * *

THE THIRD AMERICAN SALON closed its successful tour about the country with an exhibition in Pittsburg early in July. As the Carnegie Institute was not available, the pictures were hung in Wilkinsburg, outside the city limits. Notwithstanding this handicap, and that imposed by midsummer weather, a very large number of visitors attended. We are in receipt of newspaper clippings setting forth the attitude of the Pen, Pencil and Camera toward the Carnegie Institute, but as we have stated before, are unwilling to air in our columns factional disputes of purely local interest.

* * *

THE LONDON EXHIBITIONS.—The two great annual exhibitions will be held as usual in London this year. The Royal Photographic Society's fifty-second annual exhibition will open in the New Gallery on September 19th and be on view until October 26th. The regulations are similar to those of past years. No entry fee is charged and no awards will be made. Foreign exhibitors may send not more than six unframed but mounted photographs, which must reach the gallery not later than September 4th. Entries must be made on the form furnished by the Society.

The Linked Ring will hold its fifteenth Salon at the gallery of the Royal Water Color Society from September 13th to October 26th. For the first time, American entries may be sent unframed, but *must* be entered on the form furnished. Foreign prints must reach the Secretary not later than August 29th.

The Royal Photographic Society exhibited from June 12th to July 27th about 50 oil prints by Robert Demachy, of Paris. Unlike many one-man shows, which are the pick of many years work, these prints were all made during the past year, as experiments in a new medium. They covered a wide range of subjects, and were a revelation of the possibilities of the process. M. Demachy is an artist, and has made the most out of his negatives. His love for strong accents is well catered to by the possibilities of oil-printing, which is only equaled by etching in its possibilities of building up shadows.

* * *

COLUMBIA UNIVERSITY announces among its evening technical courses for 1907-8 a series of fifty lectures on Art Photography by Clarence H. White. The course will deal with the following subjects: The application of art to photography; instruction in the use of the camera; making of negatives and prints; landscape, architectural, illustrative and portrait photography; mounting, framing and lantern-slide making. Practice will be offered in the use of the camera in the field (Saturday afternoons) and in the studio. The lectures will be given Tuesdays and Thursdays, 7.45 to 9.45 P. M., beginning October 29th. The fee for the course is $20. Information may be had from the Director of Extension Teaching, Columbia University, New York City.

Mr. Alfred Stieglitz was invited by the University to deliver this course of lectures, but he was unable to undertake it, and Mr. White was suggested by him as entirely capable of giving the course.

THE PHOTO PICTORIALISTS will have an exhibition of their own work in September in the Albright Art Gallery, Buffalo, N. Y.

* * *

THE SCOTTISH PHOTOGRAPHIC FEDERATION.—This association held its annual excursion at Edzell on June 8 of this year. By chance one of our editors was visiting the same town on this date, and was most hospitably treated by the members of the Federation who had come from various parts of Scotland for the occasion. In spite of the weather, which was very threatening in the early morning, there was a goodly attendance, and the participants were furnished with cameras of every possible variety of size and construction. In the morning the members divided into two parties, one to visit the majestic ruins of Edzell Castle, the other bound for Gannochy Bridge, a most romantic structure spanning the beautiful Esk River. The two parties united for lunch at the Panmure Arms Hotel and then took brakes for the camp of the Brechin Photographic Association at Haughend, Glenesk. This is most attractively situated in a birch wood and is the center of a district full of interest to the pictorialist. Tea was to have been taken here, but the approach of rain rendered an adjournment to the hotel imperative. This was reached just as the clouds opened, after giving us a day without much rain, though ever threatening.

The Scottish Federation consists of 41 societies of varying strength. It holds each year a Scottish National Salon in one of the larger cities. The fifth will be held in the Art Galleries, Aberdeen, opening on Feb. 15, 1908. This is open to all residents of Scotland and also to Scots living abroad. The Federation publishes a monthly bulletin and annually a blue book, containing much useful information. It furnishes the affiliated societies with lists of judges, lectures and lecturers, demonstrators and information of all kinds on photographic and topographic questions.

ANSWERS TO CORRESPONDENTS.

Questions for answer should be sent to Frank R. Fraprie, 6 Beacon St., Boston, Mass., or to Dr. John Nicol, Tioga Centre, N. Y. Answers by mail will be made only in exceptional cases.

W. M. Weston.—The carbon tissue as backing may be used as you suggest, but caramel or the prepared backing you name will give better results, because there is no doubt of its being in optical contact.

Paul L. Anderson.—The figures in question mean that with negatives of equally long gradation, when the soft grade will render the whole scale, the normal will render only 65 per cent. of it. It would be easy to make a negative such that the soft grade could not render all the gradations. A certain number of gradations at one end or the other are rendered as pure white or pure black when the paper has not a long enough scale.

G. W. Hunter.—Most lenses are "spun" into their mounts and unless you are a mechanic of more than ordinary ability you had better send your lens to the maker to make it right. Even if you could remove it from the mount you would find the cementing difficult, however simple it may seem to you. Besides, the "bubble" is not in the cement but in the glass, and is not of the slightest consequence; few indeed of the highest or best anastigmats are altogether without one or more of such bubbles.

Arthur Simmons.—We saw the paragraph but it is not worth noticing. In regard to it we are like the blacksmith in relation to his little wife. On being asked by a friend why he allowed her to belabor him with the bellows, replied, "It pleases her and does me no harm."

L. deRosette.—You are quite right in supposing that a slight light action on either plates or paper makes it easier to impress an image, *i. e.*, the image is impressed by a weaker light or in a shorter time. But there is nothing new in your discovery as half a century ago it was sold as a secret while wet collodion was the only means of portrait making. After the plate was placed in the slide and before the shutter was closed it was exposed for half a second or so to the light of a wax match or "vesta"; and the "process monger" as he was called, claimed that by such pre-lighting the exposure was reduced by one-half. Your discovery just goes to confirm the oft repeated saying that "there is nothing new under the sun."

Henry Arthur.—The paragraph you quote is a mistake. If the lens is symmetrical f-8 of the doublet will be f-16 with either of the single lenses, and will require just four times the exposure of the doublet. That, of course, is roughly speaking, as the separation is not taken into account, but it will be near enough for all practical purposes. We cannot recommend any particular lens in this column, but there is really nothing to choose between the four you mention We like the curtain shutter you ask about very well and use it on several of our lenses, if you soak the bulb and tube in a weak solution of ammonia it will get quite soft and workable.

G. R. Tulloch.—By all means take a stand, as the times and objects are few and far between when as good results for your purpose can be made by the camera in the hand compared with one on a stand. or slide making the negatives should be as perfect as possible, not too dense but full of detail and gradation Nothing but the highest of high lights should there be such in the subject, should be so opaque that the finger placed behind it not be seen. That is, that all lights but the highest of the high should allow some light to pass. The same applies to negatives for enlargement, and artistic manipulation can do much in the enlarging and printing.

(Miss) R. K. D.—Yes, tank development has passed the experimental stage and is a decided step in advance. We shall have an article on its advantages and uses soon. The size of stop depends on the object you have in view, but for pictorial work there is rarely necessity, even with your rectilinear, for one smaller than f-11.

D. R. Brown.—As you do not care for objects in motion our "honest" advice is to be content with the lens that came in your 3a F. P. K., the only real advantage the one you propose has over it being that it is four times as fast, and the original lens is fast enough, in fairly good light, for all you want it to do. See answer to Miss R. K. D.

Matilda Gaynor.—You are using too much bromide in your developing solution. Reduce it by a half and the greenish color will not trouble you. We cannot give private criticism, as "Our Portfolio" is intended for our readers in general quite as much as for those who send the prints. But, as you may see, we criticise under initials which should give you all the privacy you want, although we must have your name, not for publication, but to show good faith.

W. G. Renton.—It has been known ever since optics became a science that under certain conditions a lens made an aerial image although it required something to make it visible. It has also been known that that image could be photographed, and that fact has recently been made the subject of a patent, but whether valid or not we do not at present care to say. We may, however, say that you may make and sell the proposed apparatus without fear of being troubled by any one. Before, however, you reach success the work must be much better than the specimen sent to us. The patent mentioned will effectually prevent you from protecting your arrangement.

J. R. D.—Although we have, in our time, made hundreds of batches of "gun cotton" or rather pyroxyline, and could make batch after batch without any chance of failure, yet if we wanted a little, as you do, for flash light purposes we should certainly buy rather than make it. We have no hesitation in saying that should you make up your mind to try it and should you succeed your first ounce will cost you twenty times more than you could buy it for. And the same we say regarding the flash light mixture. Not a few deaths have already resulted from the making of it, and to buy is always better and cheaper than to make. We like the Kodak flash sheets for most purposes, and their convenience is unquestionable.

BREAD, MILK AND HONEY FRED STROHSCHEIN

AMERICAN PHOTOGRAPHY

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Original manuscripts on photographic subjects are solicited, and if accepted will be paid for on publication. New ideas, practical hints and reports of club meetings are desired. Matter intended for publication in any number should reach us not later than the 15th of the previous month.

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SEPTEMBER EDWARD B. SIDES

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Vol. I. SEPTEMBER, 1907 No. 3

THE PHOTO-PICTORIALISTS OF BUFFALO.

FRANK ROY FRAPRIE.

We are privileged to present to the inspection of our readers this month several reproductions of pictures by members of the society named in the title of this article. These prints are selected from the exhibition at present hanging in the Albright Art Gallery in the city of Buffalo.

This society consists at present of eight members, drawn together by unity of thought and feeling for the purpose of the study of art in photography. The group was formed in October, 1906, and, like the Linked Ring and the Photo-Secession, the organization is of the simplest nature. Every member feels an equal interest and responsibility in the success of the club, and there are no officers, except that one member, Mr. W. H. Porterfield, has agreed to care for necessary correspondence.

The members are Oscar C. Anthony, Charles E. Booz, William A. Hatch, G. Edwin Keller, S. S. Lloyd, W. H. Porterfield, John M. Schreck and Edward B. Sides.

The club has been active in sending its pictures forth into the world since its inception. Its first exhibition was held at the Photographic Society of Philadelphia in March of this year. Since then it has been hung at the Corcoran Gallery in Washington from March 31 to April 8, and at the Art Institute of Chicago from May 1 to June 15. The forthcoming exhibition at the Albright Art Gallery in Buffalo will be open from September 8 to October 1, and will consist of about sixty prints.

In a general way an examination of the works of this group reveals a remarkable unanimity of feeling among the individual workers. They all possess the cardinal virtue of working on lines of simplicity, both in motive and composition. They observe with care and transcribe with fidelity and feeling the manifold moods of nature, especially inanimate nature. But their work is far from being confined to landscape. It covers a range as wide as it is remarkable among artistic photographers. There has been a general tendency among workers in this medium to limit their choice of subjects, but the Photo-Pictorialists have photographed with success in widely varying fields. It is with diffidence that we venture to pen the following criticisms of some of the pictures chosen for reproduction, premising that they represent only personal opinion of the original prints, not of the half-tone cuts.

The picture which we have chosen for the frontispiece is most appropriately entitled "September." It offers a composition which, while not academic, is eminently pleasing. The atmosphere and values of the middle distance and background are excellent. One cannot help feeling, however, that the shadows in the foreground are a trifle too heavy for perfect balance, and might with advantage be somewhat lightened. They are not sufficiently explained by the contents of the picture, and do not seem to harmonize in direction with the heavy shadow under the bridge.

"Looking East at Sunset," by W. H. Porterfield, adds to the austere beauty of a perfectly spaced harmony of lines the delicate charm of well-rendered atmosphere. It will repay careful study.

G. Edwin Keller attains almost the acme of simplicity in "Solitude." The lone tree, the horizon, the distant copse, all are perfectly placed. The sun might better have been moved from the central position it occupies, and should certainly have been much brighter than the rift in the clouds below it, which now is of equal value. The atmospheric rendering is excellent.

"A Seneca Maiden," by John M. Schreck, is an ideal piece of outdoor genre. The canoe is well placed, its occupant is admirably rendered, and the picture is completed with masterly surety of touch by the graceful sweep of the overhanging branches introduced in exactly the proper places.

"The First Love Letter," by Charles Booz, well exemplifies some of the theories set forth by Prof. Beck in "Art Principles in Portrait Photography." The curtain balances the figure, forms with the arm a line which surely carries the eye in an oval curve from letter to face and back again, and gives stability by tying the figure to the frame. Our reproduction shows far too much of the grain of the paper, and is in this respect not truly representative of the original.

"Eventide," by O. C. Anthony, is a quiet landscape of excellent arrangement and great truth of rendition. The interesting alternation of light and dark along the horizon is a suggestion worthy of fuller study and elaboration in future work.

Will A. Hatch's "In Old Virginny" apes too much the technique of charcoal to be wholly commended. The reproduction is somewhat more spotty than the original, which is a well-modulated and truthful print.

S. S. Lloyd's "On the Deep Blue Sea" is essentially a study in placing. Not only is it successful in this respect, but it is an admirable rendering of gentle surf and quiet sky, well worthy of its maker's reputation.

Having criticised one print by each member, we leave the remaining pictures, some of which are included in this number, and one or two are crowded out until another month, to the study of our readers, confident that they will be able to draw just conclusions and learn useful lessons from their own study and observation. To the inevitable fault-finder we have but to say, "Send us your own work but one-half as good, and we will gladly reproduce it."

A BAG of two or three thicknesses of flannel tied over the nozzle of the tap is a certain preventive of iron spots on negatives and prints. It is also an excellent splash preventer. The stream from it will fill a bottle without waste, when the direct unchecked stream is too wide or violent.

LOOKING EAST AT SUNSET

W. H. PORTERFIELD

A METHOD OF MEASURING SHUTTER SPEEDS.

By Stephen E. Woodbury.

In securing good pictures the correct exposure of the photographic plate is of the greatest importance. Then no modification of the normal developer is necessary and the consequent uncertainties are avoided. Having produced a good negative, printing is easily accomplished and the result is technically satisfactory.

Of the factors which decide the exposures some are estimated, as the time of day and year, the weather and the view. These vary greatly and require considerable skill on the part of the photographer in deciding the effects of each. Other factors are derived with almost mathematical preciseness, as the relative speed of the plate, the diaphragm opening, etc. The length of time that the shutter is open when its pointer is set at a given indication ought to be equally exact. Unfortunately, however, nearly every shutter is more or less in error, many of them hopelessly so. Thus the photographer who has carefully calculated the exposure and set the diaphragm and shutter to correspond, too often gets results that are inconsistent. Ordinarily these must be endured, since with no method at hand to check the shutter speeds, the errors go undetected. Many times skill in exposing is nothing more than instinctive realization by experience of the errors in the shutter speeds. Yet, one need not struggle along in ignorance of the exact speeds, for very little is required to check these values with an accuracy far beyond the requirements.

The principle of the following method is that of photographing a moving object of which the rate of movement is known and then measuring the displacement due to such movement while the shutter is open. The apparatus used may be found ready at hand in any home. It consists of the front wheel of an inverted bicycle, not removed from the frame, and clear sunlight. A few ordinary plates with facilities for developing completes the equipment.

The camera should be set up from six to eight feet from the wheel on a line with the axis. A strip of white paper about one inch wide is secured to the wheel so as to extend from the hub to the circumference. It is preferable that a similar strip extend from the hub to the circumference in the opposite direction. Let it be desired to measure the 1-100 second speed of the shutter. With the plate ready for exposure, the operator takes a position at the camera, a watch in one hand and the bulb of the shutter in the other. An assistant then sets the bicycle wheel spinning at as great a speed as he can conveniently count the revolutions. As the second hand of the watch passes a five-second mark the operator says: "Start." At that moment the assistant begins counting revolutions, using the oil cup or the click of a cyclometer as a guide. Five seconds later the operator presses the bulb. The assistant continues counting until another five seconds has elapsed when the operator says: "Stop." The number of revolutions is then noted. A photograph obtained by this process is shown in the reproduction.

SOLITUDE

G. EDWIN KELLER

Upon examining either one of the sectors made by the moving paper strip it will be seen that the shutter required some time to open fully and after remaining open for a period took a certain time to close, i. e., it did not open and close instantly. In comparing the action of different shutters this feature is of great importance. In determining the equivalent time of full opening one must allow for this and take a distance somewhat shorter than the total width of the sector. From this the width of the strip itself is subtracted. The result is the distance the strip moved while the shutter was open. It is preferable to work at the circumference of the wheel. The arcs should be measured along the curve and not in a straight line. When measuring a small arc no great error is made by neglecting this, but with a large one the error becomes considerable. Having obtained this distance the data are available for determining the time the shutter was open. In order to properly explain this let an actual case be taken. In ten seconds the wheel made twenty-three revolutions. The diameter of the image of the wheel on the plate was two and a half inches. The width of the sector was five-sixteenths of an inch. The image of the strip, measured at the hub, where the movement was inappreciable, was one-eighth of an inch. Therefore the image of the strip moved three-sixteenths of an inch or 0.187. The circumference of the image of the wheel was 7.87 inches. Then $0.187 \div 7.87 = 0.0238$, which is the portion of a revolution that the strip moved while the shutter was open. The wheel took 10-23 of a second to make one revolution. Then $10\text{-}23 \times 0.0238 = 0.0103$ or 1-97 of a second.

When there is considerable work to be done with images of the same diameter a constant can be obtained that will simplify the calculation. For instance, the constant for an image circle two and one-half inches in diameter, as used in the above example, is obtained by dividing the number of seconds by the circumference of the image circle, i. e., $\frac{10}{2.5 \times 3.14} = 1.27$. Multiplying this constant by the distance the strip moved in inches and dividing by the number of revolutions in ten seconds will give the shutter speed. Thus, $1.27 \times \frac{0.187}{23} = 0.0103$, as before. Since this last calculation causes the result to appear as a decimal and it is customary to speak of the shuter speed as a fraction whose numerator is one, it will be best to use the reciprocal as follows: Multiply the reciprocal corresponding to the diameter of the image circle by the revolutions in ten seconds and divide by the distance in inches that the image of the strip moved while the shutter was open. Thus, $0.79 \times \frac{23}{0.187} = 97$. This result is the denominator of the required fraction and the fraction is 1-97.

TABLE OF CONSTANTS FOR IMAGE CIRCLES.

Dia. of Image.	Constant.	Reciprocal.
2.00 inches	1.59	0.63
2.25 inches	1.41	0.71

A SENECA MAIDEN **JOHN M. SCHRECK**

2.50 inches	1.27	0.79
2.75 inches	1.16	0.87
3.00 inches	1.06	0.94

Probably the bicycle wheel cannot be set spinning at much more than a certain speed, nor can it be made to turn steadily at much less than a certain speed. On this account the following table of speeds will be found convenient:

For testing 1-100 sec., use 30 rev. per minute.
For testing 1-50 sec., use 25 rev. per minute.
For testing 1-25 sec., use 20 rev. per minute.
For testing 1-10 sec., use 15 rev. per minute.
For testing 1-5 sec., use 10 rev. per minute.

These values can be obtained with sufficient accuracy by trial just before the test. Two strips of paper are used so that a test will not be lost by photographing a single strip at the moment it passes through the forks. In any case only one sector is used in the calculation. Smaller diaphragm openings should be used for the slower shutter speeds. It is not necesary to make prints, as the measurements can be more easily made upon the negatives.

HINTS TO BEGINNERS—MOUNTING.

By Burton H. Allbee.

Gradually through all the processes the beginner has been led up to the print, which is the end and aim of all picture making. The apparatus, the making and finishing of the negative, the making of the print—they are all processes in the work of making something which shall delight the eye and reproduce some of the inspiration which moved the maker of the picture when he looked upon the scene it represents.

All the different processes have their own troubles and mounting has its share. It is a trade in itself to learn to mount and frame. A picture can be wonderfully strengthened and its attractive points emphasized by proper mounting, or exactly the reverse may, and often does, occur. Only after careful study should a picture be mounted and then there ought to be some experimenting before it is placed permanently upon the mount.

Practically all amateurs make their prints by the popular developing paper process, black and white, with occasional variation in brown or sepia, but the latter by no means common. Many still use printing-out paper, relying upon the gold solution to give them their required permanency and gradation of tones. But unquestionably a majority use only gaslight papers. And they are quite as seriously troubled about proper mounting as the others.

Usually two colors of mounts are offered. Black or gray are the favorites and most common. But no picture should be placed permanently upon either color until it has been tested and the maker knows on which it will look best. The object is to furnish not only a proper support, but one that will emphasize either the lights or the darks, just whichever may be most prominent.

Personally I prefer the black mount as being the most satisfactory, everything considered; but possibly that is a matter of taste and the gray will suit others quite as well. One must learn to judge these things for himself. A dark mount will usually emphasize the lights, for example, and make them appear stronger than a gray mount will do. A gray mount has a tendency to degrade the lights and make them appear weak. But this can be determined by trial.

Some prints, notably portraits, look better when surrounded with a white mat, wider or narrower, according to the print. Portraits printed under an oval mask with white around them are often improved But this is a matter of taste.

A narrow white line around a print will frequently serve to emphasize its good qualities by making it stand out from the background. But not all prints will stand this white line and only experiment can determine whether it improves or not.

The size of the mount should be generous. Many prints are dwarfed by being placed on a small mount. It makes them look as though they were cramped for room. Give them plenty of margin, determining the proper proportions by trying different sized mounts. Room above and below a print gives the impression of height and depth. Room at the sides

THE FIRST LOVE LETTER CHARLES BOOZ

makes a print look wider and not so high. An even margin all around is usually the best. It is permissible to vary the width if certain effects are sought. But as a rule the amateur had better leave this seeking for unusual and bizarre effects to those who have progressed farther and understand better how to handle the oddities of mounting and other processes.

The question of trimming will arise. Some advocate trimming and trimming, averring that only by trimming can the best of the picture be obtained. This may be true of one poorly composed, but if one takes pains with the composition and sees that it is as nearly correct as possible before making the exposure it is difficult to understand why trimming should be necessary. It seems a waste. If one wants 4 x 5 pictures, why not make them that size? It is a waste of good material to make something 5 x 7 and then trim down to 4 x 5. And there is no reason why trimming should be necessary in either case. Compose the picture right to begin with and the rest will be easy.

Trimming will never compensate for poor composition. If a picture is obtainable from a poorly composed plate it is accident and not the good work of the artist. Accidents are sometimes well worth while, but a long series of accidents, or attempted accidents, should not be tolerated. Compose your pictures in the beginning and save the material which would otherwise be wasted in trimming.

Any of the photo-pastes are good mountants. Good ones can be made at home, but the scientifically prepared sorts are so cheap that this seems unnecessary. Better buy what you want and be sure it is good.

The directions for mounting say that prints should be wet, laid face down and brushed over lightly with rather thin paste. Perhaps so. But I do mine differently. I lay them face down when dry, brush them over with moderately thick paste and then rub into contact with the mount. It is a matter of individual preference. I confess that I don't care to have more than one wet print at the same time. And I have found that this is quite as good as the other way and I like it better, consequently I use it.

Mounts will curl. There is no getting rid of this troublesome feature of picture making. If the paper upon which the print is made is heavy attach it only by the upper corners. But if it is of ordinary weight it will have to be pasted all over the back. The mount can then be placed under heavy weights and it will not curl as badly after it is dry. Of course a heavy mount will not curl at all with ordinary prints. But the amateur doesn't buy the expensive, heavy mounts. He prefers the lighter ones and he will have some curled pictures despite his most strenuous efforts to overcome the difficulty.

There are many pretty and inexpensive slip-in mounts which do away with this curling and they have the advantage of being quite as good for the second print as for the first. Draw the dry print under the round edge of a ruler applied to its back. That will straighten it and the rest is easy.

After the print is mounted and perfectly dry take a damp cloth and wipe the face of it carefully. It won't do it any harm. Remember that this same print was washed an hour or so in running water. The small quantity of moisture in a damp cloth will not hurt it after the paste is dry and

EVENTIDE O. C. ANTHONY

it is surprising how it brightens up the whole print. It will get more or less soiled in handling and the washing is effective in removing all this dirt, whatever it may be.

These few hints may set some amateur to thinking in the right direction. It is not an exhaustive discussion of the subject, but it will help. Perhaps some other time it can be taken up more at length, but in these papers an attempt has been made to clear the air for the amateur, not complicate matters for him until he scarcely knows which way to turn. Once select some good method and follow it until thoroughly learned; the rest comes easy. It evolves itself from the mass of accumulated knowledge.

A sizing made of 180 grs. of arrowroot, 40 grs. of glucose mixed with a little water, a pint of hot water added, and the whole boiled, should be applied to porous paper before sensitizing for blue-prints.

The method of obtaining a negative from a negative or a positive from a positive is merely developing by the aid of a candle instead of red light. A plate was exposed in the printing-frame behind a negative for 1 second and a good transparency was obtained. By increasing the exposure to 140, 150, 160, and 170 seconds, then treating with ferricyanide, washing and developing by candle-light, a negative was obtained, though less free from fog, at 140 seconds. When the exposure was increased to 180 seconds a positive was obtained which was converted into a negative, but with 7 minutes' exposure a positive was obtained and did not change."

OUTDOOR PORTRAITURE.

W. Foster Brigham.

When one sets out with the intention of making a picture that will also be a faithful portrait, the difficulties to be encountered are much greater than if only one or the other is wanted. If, however, you are able to make a presentable portrait, very little extra thought is required to give the additional art value, and the result should be pleasing and acceptable to all; whereas if it has no artistic qualities, the resulting photograph is only interesting to those who know the sitter.

How much better, then, is it to make the extra effort, more especially since this branch of work is not nearly so hackneyed as most of the subjects that exhibitors revel in.

The sitter in this class of work has not much influence on the result. Perhaps the only impossible object is the ordinary man in his broadcloth. Somehow or other, hard hats, carefully creased trousers, and fancy vests seem to jar in any out-of-door portrait. They are out of their element; the wearer should be in office or sitting-room rather than in the beautiful fields or on the lone seashore. Doubtless a picture and portrait might in some cases be made if the sitter had one of those delightfully imposing "photographic" heads, but only head and bust should be attempted, and usually against an artificial ground.

I do not wish, however, to treat of the artificial background here, as I think it is rather at variance with the true out-of-doors lighting. To return to sitters, however; to deal first with men, having very rudely given them precedence. Almost anyone indulging in his usual occupation, in his usual working clothes, makes a picture at least a possibility. As for the ladies—well, it would be unkind to say they are not pictures at all times and under all circumstances.

Having, then, figuratively speaking, dismissed the sitter—or victim—for a time, let us glance at the prime essentials for our picture. Firstly, and it is all-important, is the background and general surroundings, and this must receive the greatest attention, as poor surroundings, or, worst of all, bad background, make a picture impossible. Secondly—say pose; this must be natural, and appropriate to surroundings and figure. Also, since we are making a portrait, it must be characteristic. Thirdly—the best index to character of all—the expression. This must be, if possible, the expression of the sitter, and in any case must be natural, certainly with no sign of being forced, and free from any tinge of camera consciousness. Fourthly—the lighting. This is considered so far along because no actual control is possible; but the best time of day and best position for model, whether a sunshine portrait or otherwise, must be decided according to circumstances, and should, indeed, be selected with background and surroundings. Lastly, apparatus. In this case the last is the least important, for not the camera, but the man, makes the picture. Anything that will take a photograph will do, but an extra long focus lens is necessary if correct, or at least pleasing, perspective is to be obtained. The single combination of an

"IN OLD VIRGINNY" WILL. A HATCH

astigmat is excellent, or a larger lens may be used on a small plate. A lens working at large aperture is particularly useful on account of slight depth of field, which enables one to get background soft and unobtrusive. Camera and tripod, of course, to suit yourself. Plates, for preference rapid, and a silent shutter. We will now deal with the personal factors at greater length.

The general surroundings will, of course, be those that your ideas of composition lead you to select, though, in my opinion, a wood or forest supplies some of the most satisfactory settings for pictures. A long stretch of seashore also holds forth great possibilities. If you do not intend to take full lengths—though this is, in my opinion, the view par excellence for the description of out-door portraiture we are discussing—only the background will cause you trouble. This background, if it is not going to obtrude or irritate, must be plain, and at some distance from the sitter. There is really very little choice in this matter, since only three or four things are likely to be used. The most difficult, though making a plain ground, is the open sky; a hillside is good, and also a large clump of trees, or, say, a distant wood. Perhaps this latter is the most satisfactory, but pray do not think I mean a bush behind the head, showing a hundred and one different points of reflected light, which forms the worst possible ground.

ON THE DEEP BLUE SEA

S. S. LLOYD

A house side, if not too far away, is good, but frequently these are introduced, and the effect is that of a doll's house just behind the sitter, due, of course, to short focus lens and bad rendering of atmosphere. Open sky is, perhaps, more generally used than anything else, though its brilliancy somewhat attracts attention, and moreover, makes the face extremely low in tones. I should advise all beginners to leave these problems until they advance somewhat, since only the photographic clique, and not all of them, appreciate the difficulties.

For further information on backgrounds, read any book on portraiture; what applies to indoor work also applies to a natural background. The background must not compete in importance with the figure, and should only be noticed when looked for. A plain background with little detail and no spotty or insistent high lights is to be aimed at.

We now get to our second essential—pose. This depends greatly on your sitter; but remember that arrested motion, or sitter indulging in a pose which indicates strident action, seldom makes a satisfactory portrait, however suitable the action may be for a figure study. Presuming you know your sitter—and this is practically certain—you will, in all probability, be able to seize upon some pose that is usual with him or her, and with which friends have, probably unconsciously, associated the sitter. Frequently we find it impossible to settle on one pose as *the* one, and in this case any ordinary position which is suitable and which composes well may be used. Now, however, I must retract all that I have written, and say, "Do not pose," or perhaps amend it to, "Do not appear to pose"! The only way to do this is to talk to the sitter until the camera is forgotten, and then seize on a good opportunity as soon as apparent.

Coming to our third requirement, expression. Until you can handle your sitter properly, do not take models looking straight at the camera. That is the position beginners start with and where they fail. When sitters are perfectly natural, no other pose of the head is so satisfactory; but until some experience is gained, be content with three-quarter or profile view.

We now come to lighting. Diffused light is simplest to manage, and is in almost all cases satisfactory. If a figure is taken in the open, a house side or group of trees may make a shadow side, but more often no such aids to modelling can be used. To get as much of the latter as possible, be careful not to over-expose. With sunshine portraits more difficulty will be experienced, the face having a tendency to be quite black and white, shadows too low in tone, or lacking in all detail. To combat this, a dark background, full exposure, and development not carried too far, are required. A profile lighted *à la* photographic Rembrandt is effective.

Although for portraiture in an ordinary room it is preferable to considerably dilute the developer, with outdoor portraits it is different, the lighting having so great a tendency to be flat. In some cases developer may be used at double strength; this aids to further subdue a dark background, but usually we find any developer used at normal strength is best. What reducing agent you use is merely a matter of taste. All, we think, are equally good if you know their peculiarities, and have developed with them sufficiently long.—*The Amateur Photographer.*

RETOUCHING AND SPOTTING.

By Howard E. Read.

Retouching is an art in itself and no attempt will be given here to describe regular professional portrait retouching. A few hints will be given that may be of benefit in remedying minor defects and blemishes, such as pimples or freckles on the face or dust spots, pinholes, etc., that may occur on any negative where care is not observed.

First, the negative must be flown with a retouching medium to give a tooth for the retouching pencil to take hold of. This is a formula for a retouching medium that is easily made and as good as can be made; it is used by thousands of professionals and at colleges of photography: Gum mastic, 45 grains, cut in ether, 2 ounces, then poured slowly into gasoline, 12 ounces.

To flow the plate take it by one corner and pour a pool of the retouching medium, or varnish, as some call it, in the center of the plate, running it slowly from center to corner until the whole plate is covered; then flow the surplus back into the bottle. The varnish is not apt to run off at the edge of the negative, but if it does and gets on the glass side a little gasoline will take it off nicely. Fan the negative for a minute after flowing, when it will be dry and ready to work upon.

You must have a retouching frame or desk, and one made out of a dry goods box will answer the purpose all right. Cut a hole in the back about three inches square and put a piece of ground glass behind it to soften and diffuse the light. The box should be sawed off in such a manner (or put on legs) so as to make the back of the box at an angle of about 45 degrees, as it will be more convenient to work with. Place your negative over this little hole in the back, set your box on a table near a window, throw a black cloth over your head and you are ready for work. Use a fine point on your pencil. Sharpen it on sandpaper, leaving at least three-quarters of an inch of lead exposed. Use a Faber's Artist Pencil, about 2H or 3H, to fill up little transparencies like freckles, pimples, etc., to the same density as the surrounding film. Work very carefully and lightly and soon you will be able to retouch these out very easily and your print will look much better than when freckles, etc., show.

In filling up pinholes, etc., use a small sable brush and India ink. Moisten the brush in the mouth and rub it on the stick of ink. Do not get the brush very wet nor put much ink on it. If these holes or dust spots occur in dense portions of the negative they may be spotted out very easily. If you get the spot a little too dense with ink it will leave a white spot on the print, of course, but this may be spotted out on the print with the same brush and ink if the spot is not too large. After you practice a while these spots on the negative and all little white spots on the print may be filled up very nicely. But do all with the pencil on the negative that you can, as it is usually much better than the brush. The negative may be flown with the retouching medium the second or third time even if the first time does not give "tooth" enough for your pencil. After retouching the negative flow it again to keep the retouching from rubbing off. View negatives require no retouching only to remove little defects such as dust spots, etc.

PHOTOGRAPHING FOR PROFIT.

By William Restelle.

There are two classes of photographers, namely, those who photograph for profit and those who photograph for pleasure. The former class is recruited almost entirely out of the latter class. Professional photographers, as a rule, began taking pictures for the pure pleasure there is in this very excellent hobby, and, having found their pastime a very engrossing one, decided that they would follow it continuously for a living. They still find considerable pleasure in picture making, but they are now also finding in it something more tangible.

Photography is an expensive hobby, not only in the way it consumes one's pocket money, but in the great demands it makes on one's time. It is not necessary for an amateur to enter the ranks of the professionals in order to make money out of his hobby, nor is it necessary for him to devote much more time to it than he is at present doing. All that he needs is a nose for business and to quit snapping pictures without any definite object in view. There is a very promising and ever-widening field for the amateur photographer who is anxious to make a little extra money in his spare time. It is the purpose of this short article to describe the scope of this field and how one should go about exploiting it.

There are three great subdivisions in which "photographing for profit" may conveniently be divided. They are (1) the press, (2) advertising, (3) work for institutions, groups and private individuals.

The Press.—It is only a few years since press photography attained any great importance. To-day it is a business of no mean proportions. There are said to be over twenty thousand periodicals of one kind or another published in the United States, and by far the greater number of these use suitable illustrations whenever they can get them. Some of these consider a mere "thanks" sufficient recompense for the privilege of using your pictures; some pay a small price for everything they use, while others, and especially the papers and magazines of wide circulation, pay all the way from one dollar to five dollars and more for timely, interesting and well-done pictures. It is impossible in the limited space of this article to describe the market for photographs, for it is very wide and very diverse. One must, indeed, study it for himself, and there is only one way to do it, namely, by examining every publication you can lay your hands on, noting its nature and kind of material it uses, not only its illustrations, but also the text matter of its articles. On the editorial page of many publications readers are asked to submit pictures, articles and news items which they think suitable for it. As there are hundreds of periodicals which one never sees on the news-stands, it is advisable that you get a magazine catalog and send for sample copies of periodicals of all kinds. It is also a good plan to stack these away for future reference and to make a note of every possible market in a special book. When submitting photos to editors always enclose return postage in case they are unavailable. It is better to mail photos to publishers unmounted, not only because they are more convenient to the engravers in that form, but because it means a great saving in postage. A short description should be sent with each photograph, as a rule, but it is not by any means always necessary. When writing to editors make your letter brief and business-like, giving your full name and address and stating that you should be glad to accept payment for any material used at usual rates.

Advertising.—Striking photographs are coming more and more to be used by advertisers in their publicity campaigns. The market as yet is quite limited, but it is an ever-widening one. Large advertising firms and syndicates occasionally purchase really striking photographs that can be used advantageously in attracting attention to their wares. By studying the advertising methods of large business houses suggestions often come to one's mind and a market for pictures occasionally found.

Work for Private Parties.—Though there is less glory in this class of work, there is also less disappointment. The market, too, is close at hand and a great deal steadier. Instead of taking photographs on a chance of marketing them afterward, you solicit orders from private families, groups of people, societies, churches, schools, the local military regiments, etc. By getting a certain number of any particular body to promise to purchase so many pictures from you of the group in which they are contained, you are sure of covering the cost of printing the photographs if not of realizing a profit from them. There is a good field for competent amateur photographers to make money on the side in this way in almost every village, town and city throughout the land. All that is required is the ability to do fairly good work and a little of our genuine American push and hustle.

MEASURING SHUTTER SPEEDS S. R. WOODBURY

(See page 119)

NIGHT PHOTOGRAPHY.

Read at the Eighth General Meeting of the Edinburgh Photographic Society Session of 1906-07, by Mr. Robert Dykes.

Night photography! How absurd! Such might have been the remark some years ago when photographic plates were slow, as well as most other things. Even now, in the days of the quick plate, the man who photographs at night is looked upon as worse than absurd, or as I have often been called in Scotland, "daft a wee." Of course such *encouraging* remarks fall like rain upon a duck's back once one gets interested and enthusiastic in the work.

Although exposures at night have not yet reached the snap-shotting stage, and with no intention of a "bull" "we live in hope of seeing that day," they are by no means lengthy, thanks to the rapid strides made in the production of fast plates. What the future holds in store for us as regards quick exposures depends very much upon the skill of the lens maker and plate manufacturer.

It is held by some photographers that night photography has few pictorial possibilities. To a certain extent this is so; for of the one thousand and one subjects by day we have perhaps only one that may be suitable by night. Then again, night work does not permit of the drastic treatment evidently meted out to some of the daylight productions seen at exhibitions. The lighting is so different, high lights and shadows being much more difficult to handle. One cannot take this or that out and put something else in its place very easily, because the slightest sign of faking is distinctly noticeable upon the negative. What one aims at in pure "night-scapes" is a clean, correctly exposed, and properly developed negative with the shadows almost clear glass but full of detail, and the high lights moderately dense but free from any pronounced halation. With such a negative one can print by contact or enlarge, and according to the process employed subdue the detail if desirable.

Granted that night work has few pictorial possibilities, it yet has a charm all its own. Photographing in a large city at night, for it is largely "city-scapes" we draw upon, we see it in quite a different light. What during the day is a busy, noisy, uninteresting street is now quiet, almost deserted, with fine clumps of heavy dark shadows emphasized here and there, where a street lamp throws its reflections over the pavement. Without a thought of photography or any other art, finding ourselves in such a street, our first desire might be to find ourselves out of it again. It is a regrettable fact that many of us think very little about the artistic or romantic side of a city by night. After the day's work is done the first consideration is how to get home in the quickest manner possible—much the same way as some people take photographs—and when at home to stay there. It is quite a common mistake, and at the same time I think a sinful one, to imagine that it is only the vulgar and the low who haunt the streets of a great city by night. Certainly night is the only time many of the lower classes have the opportunity of getting the fresh air, and there may be a little social difference between Bond street in the afternoon and Bond street at night. It is an old saying that "one-half of the world knows not how the other half lives," and it is my humble opinion that the former half don't want to know.

Who that has any feeling of romance or sense of the artistic could ignore the majestic and impressive grandeur of St. Paul's Cathedral looming up out of the darkness as we walk up Ludgate Hill on a wet night; or the solemn measured boom of Big Ben striking out the hour of midnight as we cross Westminster Bridge; or again, the quiet solitude of the Thames Embankment near Cleopatra's Needle on a foggy night, the stillness only broken by the swish of the mighty Thames as she flows on to the sea, or by the tinkle of a passing cab. This is London wrapt in darkness, as London or any city should be seen, for during the day when its streets are throbbing with life and roaring with noise the mind gets very little opportunity of appreciating the mystery and vastness of a great city. How many of us have often felt the desire to have a photographic record of some such scene, or perhaps Trafalgar Square on a wet night, with its sparkling lights and brilliant reflections, or again a beautiful sky, or a harbor by moonlight?

If darkness were absolute at night then photography might be out of the question except by flash-light, about which it is not my intention to speak, so much having already been written about the subject. All the year round there is no time of the night that is perfectly dark from a photographic point of view. There is always a certain amount of actinic light energy even out in the open country away from all apparent life, with no sign of an artificial light. I don't think on the darkest of nights—once our eyes becomes accustomed to it—can we feel absolute blackness. The hedges, trees by the roadside, all loom up from the darkness of shadow to the darkness of an inky sky, yet they are still discernible. Now, if the eye can discern objects at night, it is obvious that the more sensitive lens and photographic plate will do so, and at the same time, it is a remarkable fact, pick up and record many things that the eye could not see. If objects are discernible in the open country at night, how much more so must they be even on a very dark night in the city where lights from thousands of different sources brighten up the darkness, and are reflected back from the sky, giving a diffused light of great value for picking up the detail in the shadows. Then again, on a clear moonlight night, we have a wealth of soft white light that is so highly actinic that even in December it is easy to over-expose and get a daylight effect.

Night photography is dependent then upon the amount of actinic light available at night, and this may be only the one 25,000th part of that obtainable at mid-day for an open *city* view, in other words the 25th of a second with F.11 would become fifteen minutes with the same stop at midnight. But the pictorial aspect of the work lies not in the direction of light, but in the proper handling of the shadows; it is the soft, mysterious, suggestive shadows set off by a little light here and there that appeal to the imagination.

Coming now to the question of what to photograph at night, the "bill of fare" is both large and varied, far more so than one would at first imagine. Excluding flash-light work, about which, as I mentioned before, it is not my intention to speak, I cannot do better than treat each subject separately, taking, perhaps, the more scientific matter first, and, therefore, I will begin with

ASTRONOMICAL WORK.—To the everyday photographer work of this nature has very little interest. One must, in the first place, be interested in astronomy before the results can be of any value. Some very fine work is being done in the observatories throughout the world in mapping out the heavens photographically. Many of the bodies wandering in space are invisible to the eye, but their presence is made known as if by magic touch upon the photographic plate, although separated by millions of miles.

To get good photographs means the outlay of a considerable amount of time and money. The exposures are exceedingly long, and to get a sharp image necessitates the use of an astronomical clock and telescope set with the camera to follow the apparent movement of the body to be photographed. Failing this, the only work that can be attempted with an ordinary camera is to obtain star trails, using a very rapid plate, which need not be backed. Focusing must be done with a focusing glass as well as possible to the apparent focus. Owing to the great distance between the heavenly bodies and our earth, this is the most difficult part of the operation. Having focused with full aperture, one stop is inserted and the lens racked out about one and a half inches. An exposure of twenty minutes may then be tried and the lens racked out another quarter of an inch, a mark being made at each position, and another twenty minutes given; this may be repeated once more, giving three exposures of twenty minutes each, and the plate developed. The sharpest portion of the star trail will indicate the correct position of lens from plate, and an exposure of twenty minutes to one hour may then be tried.

Lunar photography is next to impossible without apparatus, owing to the light not being sufficiently intense to give a sharp image with a quick exposure. An exposure of about fifteen seconds on the moon with F.8 and a rapid plate will give an image, but one that is very little use, being too small. The moon appears considerably smaller on the photographic plate than one would expect it to. Moonlight views will be discussed further on when treating of landscape work by night.

In doing star trails one may be lucky enough to record a meteor flash. I was in the act of focusing a street scene one night, when a most beautiful meteor flashed right across the screen; it was my misfortune to be just three minutes too late.

LIGHTNING.—Photographing lightning flashes by night is a comparatively simple matter. A quick plate, well backed, the camera set to infinity, and one stop inserted. The camera is then leveled in the direction of the prevailing flashes, the lens uncapped when it is expected that a forked flash is likely to occur, sheet lightning only fogging the plate; and as soon as it is certain a flash has been obtained, the lens capped and the plate changed. I would strongly recommend that a series of flashes be not taken on one plate, or fogging and reversal will be the result. Do not stop down the lens if the flashes are distant and faint.

SKIAGRAPHS.—I mention skiagraphs here because they are neither daylight or night productions, but simply photographic impressions obtained by means of radio-active bodies. It has been shown that nearly all substances give off emanations that are capable of affecting a photographic plate. A piece of freshly planed wood if placed upon a rapid plate in absolute darkness for a day or so and the plate developed, will give a beautiful photographic impression of the structure of the wood. Nearly all the metals act the same way, and many other bodies of which radium, as we know, stands at the top.

FIREWORK DISPLAYS.—Much like lightning flashes all that one can do is to use a rapid plate well backed. Choose a suitable point of view out of the crowd, carefully focus, put in one stop, and if the display lasts no longer than twenty minutes expose the whole time. If longer, take the cap off and on, and record simply those fireworks that you want. It is no use overcrowding the plate with them, and, if the display be long, it is better to expose two plates, changing at half-time. Choice of position for photographing is the principal and most difficult problem, as just when you are all ready, or rather the fireworks are all ready to go off, *you have to* instead, owing to the number of big heads that have suddenly bobbed up between the camera and the display.

ILLUMINATIONS.—Very like firework displays, the difficulty is where to get a place free from the crowd. Illuminated buildings such as one sees at exhibitions make fairly good photographs, but there is too much symmetry, too much design, to make them really pictorial. A common mistake in photographing illuminations is to under-expose, some little detail behind the lights is essential; one does not care to see simply rows upon rows of fairy lamps with almost nothing to support them. Using a rapid plate and stop F.11 an exposure of at least twenty minutes should be given. Each little lamp is really not very actinic and taken individually would not have much effect upon the photographic plate.

CONFLAGRATIONS.—When one gets the opportunity of photographing a large fire it should be taken. A quick plate and as full an aperture as possible will allow of an exposure being made of from three to ten minutes, according to light, and providing the aperture be not more than F.8. Besides the actual conflagration itself, there are many little bits here and there, such as the steamers, etc.

IRON FOUNDRIES AND BLAST FURNACES.—Unless worked in conjunction with the flash-light these kind of subjects are of very little use. So much of the light given off is red or yellow with more heat rays than actinic rays, that to obtain a good photograph it is necessary to use a flash-light, carefully arranged so that the shadows fall with the furnace lights. Distant views are not very interesting, but may be taken much the same as ordinary street scenes.

SHOP FRONTS.—Large shops, well lighted, cannot be said to make pictures, but looking at it from an advertisement point of view it is a wonder some firms do not have their premises photographed at night when fully lighted up. With a rapid plate and F.16, an exposure of ten to fifteen minutes would suffice.

NAVAL AND OTHER MANOEUVRES.—Naval photographic work is almost impossible at night if there is any considerable amount of movement. Heavy seas, rapidly moving craft or high winds completely prevent any chance of making an exposure. For this class of work what is required is a steady position, a calm sea and the vessels or other objects to be lying still during the operations. One of the best opportunities ever afforded for testing the possibilities of the camera in naval warfare at night was on the occasion of the visit to Queensferry in 1905 of the combined Channel Fleet and Cruiser Squadron. During their stay at St. Margaret's Hope they indulged in various manœuvres which terminated on the night of May 30, 1905, by a torpedo attack. The night was very fine, but moonless and exceedingly dark with a slight haze. Everything was perfectly still and quiet except for the slight wash of the incoming tide, there being hardly a ripple upon the surface of the sea. I cycled out to Queensferry along the road as far as it would take me by the shore, then carried and wheeled my bicycle until a point nearly opposite Hopetoun House was reached which seemed suitable for the purpose. Using my cycle lamp to level my camera, I set up all ready for battle at the *water's edge* regardless of the fact that the tide was coming in. Focusing was the most difficult part of the proceeding as the ships were in total darkness, not a single light being visible. All that could be done was to accustom the eyes to looking through magnifier and ground-glass until the hulls loomed up sufficiently. Having focused roughly with the full aperture of my lens, which is a Cooke F.6.5, I put in F.11, capped my lens, drew the slide of my plate carrier and awaited developments.

At about midnight the stillness at Queensferry was broken by the booming of the guns from the North Queensferry Fort, followed rapidly by those of Dalmeny Fort on the south shore. A few seconds later and the most eastern or leading battleship, the "Triumph," flashed her search-lights over the waters of the Forth, when the torpedo destroyers were seen steaming rapidly up apparently in single file. In less than five minutes from the time the first gun was fired at Queensferry, the whole fleet were engaged, and one of the most enjoyable sights one could wish for in mimic warfare was enacted. The cease fire sounded about 12.15 A. M., and although my camera was a bit *out at sea,* I was lucky enough to get a negative with ten minutes' exposure.

STREET PHOTOGRAPHY.—This is perhaps the most fascinating form of night photography, little bits of street corner with a church steeple or perhaps a statue sharply silhouetted against the sky or some high light. The exposure will vary from half an hour for a close view with few lights to fifteen minutes for an open view such as a large square, using F.11 and a rapid plate.

In wet weather the streets in places look their best, lights scintillate bright and clear out of the darkness and cast their reflections over the pavments. Under such conditions five minutes may be knocked off the exposure.

CHURCHES BY NIGHT.—Some churches when lighted up at night afford very pretty pictures, especially if the stained glass windows are well illuminated. This class of subject is the only one for which I would recommend the use of rapid orthochromatic plates, and with an aperture of F.11, giving an exposure of thirty to forty minutes.

In all other classes of night photography I much prefer ordinary rapid plates, as I have found that instead of orthochromatic plates being quicker at night they are if anything slower. Then again they have to undergo such prolonged development that there is every risk of either chemical fog or light fog taking place.

Railway Stations by Night.—A large railway terminus offers ample scope for photographic work, but great care has to be taken to avoid moving lights, or in photographing a large locomotive to be sure that it is not likely to move when you have only got half of your exposure done. Owing to the close proximity of arc-lamps double-coated plates well backed are an advantage. Exposures may be very quick; using a rapid plate and an aperture of F.8, a fully exposed negative should be obtained in four minutes.

Shipping and Harbor Scenes.—Shipping of any sort always lends itself to pictorial treatment and on a fine clear night very good pictures may be obtained. Care must be taken to avoid movement either by rising or falling tides or by wind. The most imperceptible rock or sway of a ship's mast will spoil the photograph.

Exposures are much the same as for street work, *i. e.*, a rapid plate, well backed, F.11, fifteen minutes or so.

Seascapes and Clouds.—Some particularly beautiful skies are to be seen at night during the summer, and using F.8, a rapid plate not necessarily backed, one can get a negative with three minutes' exposure, providing that the clouds are not moving too rapidly.

Moonlight Effects.—With a full bright moon exposures at night are not so lengthy, and an open view such as a large city square may be taken in four or five minutes using F.6 and a well-backed rapid plate. An open view in the country free from artificial lighting under similar circumstances will take half an hour to three-quarters. It is of no use attempting country work unless by moonlight, but bits of road with clumps of trees and perhaps a little thatched cottage help to build up very pretty moonlit views.

Care must be taken not to include the moon or the result will be a long elliptical-shaped mark across the sky as a result of movement.

I might state with tolerable accuracy that all night photographs that include a moon are faked. Certainly those sold as post cards are. The method of their production is to snapshot against the sun and to develop the negative up thin; artificial lights are then put in with the brush. Certainly these faked night pictures are very pretty, but they depend greatly upon cloud effects, and the artificial sources of illumination put in with the brush give a false and very feeble idea of light and shadow.

Mr. J. B. Edwardes devised a means of including a real moon in the photograph simply by making an exposure on the moon and then capping the lens and waiting until it had moved out of the view, when the exposure was continued.

Perhaps this is the best method of putting a moon into the view, and it can be strengthened very considerably by careful local intensification and pencil work.

As it is my intention to speak entirely upon pure night photography I will not trespass further by mentioning many other ways of faking moonlight views. Before leaving the question, however, I must warn intending "moonlighters" against over exposure. One has a considerable amount of latitude in night work, but never give more than twenty minutes on a well-lighted street scene, with full moon, a rapid plate and F.11; five or ten minutes more than this, and no matter how carefully you develop your plate, the result is a "daylight" effect.

PANORAMIC VIEWS.—Panoramic views may be taken on one plate by taking the view from a great distance. The horizon on the plate may then be enlarged and trimmed down. Two plates or more may be exposed by turning the camera on its center and joining up, but in this case it is preferable to be very much nearer the subject to be photographed, otherwise the artificial lights will be too small and the whole picture a mass of minute detail only discernible with a powerful glass.

SNOW SCENES.—Either city or open country abound in choice subjects after a fall of snow, when everything is covered with a white mantle. If the night be clear, and things stand out sharp, very quick exposures may be given much the same as for moonlight work, only one must cut down the exposure if we have the moon as well, and under such circumstances it would be possible to do a fully lighted street scene, using a rapid plate and F.11, in about fifteen minutes.

BIG GAME BY FLASH-LIGHT.—Although particularly desirous of not speaking about flash-light work, I really cannot pass over the admirable productions of George Shiras, of Washington, D. C. Working at night in the great forests and on the vast lakes of North America, he has turned out some most interesting photographs of such animals and birds as the wild cat or lynx, moose, deer, owls, etc., in their natural haunts. Many of his photographs were exhibited at the Paris Exposition, 1900, where they received a gold medal, and also at the St. Louis Exposition of 1904 they were awarded a Grand Prize.

(To be Continued)

HELPING INTERIOR ILLUMINATION.—It is often possible, in taking interiors, to reduce the exposure to one-half or even to a quarter of what would otherwise be necessary by the use of magnesium, not as the main illuminant of the picture, but as a ready means of getting light into the deeper shadows. If it is to be used, it is better to employ it in the form of ribbon than of flash powder, as the ribbon is much more under control; the tendency with flash powder is always to use too much of it and so obtain an altogether false effect. This must be carefully guarded against. Another point to attend to is that of reflectors. While focusing, a lighted lamp should be held in every position to be occupied by the lighted ribbon and a sharp lookout kept for reflections of it in the subject, either in picture glasses, mirrors, or similar objects. Another thing to guard against is a false shadow due to the magnesium. This is best prevented by freely moving the lighted ribbon all the time, and by taking care not to use too much of it. A foot or two of ribbon, judiciously burnt, kept moving all the time, will make all the difference between under and correct exposure.

THE STRAIGHT AND THE MODIFIED PRINT.

By Robert Demachy.

There is still a misunderstanding on the subject of the straight print as opposed to the modified print. Some champions of pure photography, as it is called, will even deny that a modified print is a photograph at all. For my part, I believe that if the X deposit forming an image is built up by the action of light, under the shadow of another image, transparent, and also due to light action, the result must be a photograph, whatever modifications the photographer has thought proper to introduce among the relative proportions of the deposit.

What we call in French "l'intervention" consists in purposely adding to or subtracting from certain parts of the photographic deposit. In the case of addition, the extra thickness will be identical in substance to the primitive deposit (glycerine-developed platinotype and Rawlins' process). This practice of intervention, forbidden by pure photographers when applied to the positive print, is recommended by the same school when applied to the negative, and is then called intensification or reduction, general or local. Its final effect is similar to that of the positive intervention, viz., modification in the general or local thickness of the positive deposit. The whole question lies in this diminutive nut-shell.

Straight result or modified result—one has to choose. It stands to reason that a genuine straight photograph must owe every subsequent transformation to the first action of light on the film of the negative. This negative must neither be intensified nor reduced—no paint must be dabbed on to its back—no pencil strokes on its face, no shading of part of its surface during exposure must be allowed. The same strict rules will be applied to the development, if any, of the positive print. For if we admit that the faking that photographers have indulged in for the last fifty years is legitimate, but that similar faking, under other names and by more effective methods, is not, we are acting like overgrown children.

I maintain that if I have the right, as a photographer, to lower the density of part of my negative with Farmer's reducer, I have the equal right not to use the reducer, and to darken the corresponding part of my positive print by piling on pigment with the Rawlins stencilling brush; that if I have the right, as a photographer, to dab color on a definite portion of my negative, in order to add to its density, and thus create a white spot on my positive print, I have an equal right to leave my negative alone, and to wipe off the colored gum deposit on my print on the corresponding spot, and for the same purpose. Words will not stand against facts, and these facts, I believe, are in logical sequence.

The limit? Well, there is no limit except extreme black on one side and extreme white on the other. For nobody, except a few professional photographers, and those of no very high order, has ever attempted to paint in a dark portion of his print, or to add Chinese white to his high lights—the result is too obvious and too ugly. When we read of a print "entirely due to hand work," we simply do not believe that a jury of sane men would admit an oil or water-color painting among photographs (for that is what the expression means), and we pass on.

You will say that the practice of intervention is dangerous? Not more so than the use of straight photography for pictorial aims. This may sound paradoxical, but I believe it is just as useless for a man to attempt art through purely mechanical means as it would be foolish for an astronomer to choose gum-bichromate for printing the chart of the Milky Way.

Do not say that Nature being beautiful, and photography being able to reproduce its beauty, therefore photography is Art. This is unsound. Nature is often beautiful, of course, but never *artistic* "per se," for there can be no art without the intervention of the artist in the *making* of the picture. Nature is but a theme for the artist to play upon. Straight photography registers the theme, that is all—and, between ourselves, it registers it indifferently.—*The Amateur Photographer.*

DECEASE OF A. L. HENDERSON.—We learn from the English photographic press of the death on July 5 of Mr. A. L. Henderson, an English photographer of note in his skill in making enamel photographs on china and the like. The late Queen Victoria had among her collection of ceramic photographs a large number made by Mr. Henderson. At the time the gelatine dry plate came into use Mr. Henderson was a very active experimenter and sent to our Mr. Beach examples of instantaneous photographs of the Derby races made upon plates prepared by himself. In the Fall of 1884 he visited this country to attend a meeting of the British Association and spoke before a meeting of the Society of Amateur Photographers (now the Camera Club of New York), explaining the details of making bromide emulsions. He experimentally demonstrated before the meeting the process, which was then considered quite remarkable. He originated a formula for the preparation of a very rapid emulsion.

Mr. Henderson was a warm friend of J. Traill Taylor, former Editor of the *British Journal of Photography* and then of the *Photographic Times.* Mr. Henderson was the founder of the London and Provincial Photographic Association, a society which was quite active in promoting photography in London.

We were greatly impressed with the earnestness with which he related the various steps of the new process and his interest in acquainting others with its peculiarities.

ATMOSPHERE AND DISTANCE.—The following extract from a lecture on street photography, by A. Lockett, would seem to be a useful hint for many other branches of work: "Above all things, see that you get a soft, luminously veiled distance. If it is there, you can photograph it and secure a good atmospheric effect in the picture; if it is not there, no amount of after-treatment will ever put it in. Cultivate the habit of looking at the distance before taking any view. If it seems too sharp and distinct, pass on and try something else; but if it appears lighter and hazier than nearer objects, then, other things being satisfactory, there is a chance of securing a pictorially good negative."

SOME THOUGHTS ON PICTURE TITLES.

F. J. Mortimer, F.R.P.S.

If an analysis could be made of the process by which the pictures seen at the photographic exhibitions became possessed of the titles that accompany them, we think it would be found—sad as it may appear—that a very large percentage of the prints were not finally christened until some time after the finished photograph was mounted; sometimes, alas! not until the completed work was framed and the entry form only remained to be filled in.

That this state of things should exist must be extremely painful to the advocates of thoughtful art in photography, who argue that a picture to be good must be evolved in the worker's inner consciousness before the plate is exposed, and that the motive and title, or literal expression of the motive, should be quite settled before the cap or shutter uncovers the lens.

We know, however, that in the majority of cases, facts point to an entirely opposite course having been followed, and we know also that more than one able article has appeared dealing with such topics as "the choice of a suitable title"; while there is at least one excellent book on the market containing nothing but assorted titles for application to photographic pictures and paintings.

Photographs that appear in exhibitions may, therefore, be said to have gained their titles generally in one of three ways: some are made with titles, others achieve titles without preconception, and some have titles thrust upon them.

The first class contains pictures that usually appeal to the imagination, and their titles indicate that a deliberate endeavor was made to follow an original idea. The title, in other words, starts a train of thought, and this is the effect on the spectator. Purely descriptive titles may also come under this category, and may indicate that a certain phase of the subject chosen was deliberately portrayed.

The pictures that "achieve" titles are those that suggested a good idea at the time of taking, and not before. Pictures of this sort usually gain their titles from the individuals who fish for their compositions on the focusing screen.

The third class is by far the greatest. Here the photographer is first attracted by the scene he photographs because it is effective or pretty or affords a fine composition, but when the negative is developed and the print made he is still undecided what to call it. Finally, a familiar quotation or well-worn phrase is affixed, and the whole passes muster at the shows as a "good thing."

Now is the time, however, when a plea can be entered for more deliberate work of the first class. Many readers are probably at the present time taking their holidays and securing numerous pictures wherever their choice of location may have placed them. Let these photographers endeavor to render into pictorial form by means of their camera and lens some preconceived idea or title, and then, provided the environment is congenial, work to secure a really thoughtful interpretation of that idea.

We can safely say that a photographic holiday spent in this way will probably bring forth infinitely better pictorial work (although not nearly so much) than the best that may be culled from a mass of snapshots taken merely because striking effects were at hand or because the views were pretty.

Of course, the occasion may arise when remarkably fine pictorial effects thrust themselves upon one, and it would be stupid to allow such opportunities to go unrecorded. In these cases the pictures and their titles will probably fall into class two, as the vision of the composition will probably simultaneously suggest its title.

It has been stated on more than one occasion that, theoretically, a perfect picture should not need a title—that it should tell its own story without further embellishment and without assistance. Practically, this happy state of affairs is seldom realized, and the part the title plays is more often than not an important one.

A picture should, however, not be dependent upon its title, so that the spectator instinctively asks, Where is it? or What is it? but should be satisfying as a composition of lines and masses, and, if it embodies a subject motive, this should be fairly obvious.

A reference to the title should then start a train of thoughts which should place the onlooker in the position of the artist, so that the emotions which are intended to be portrayed or suggested are fully realized.

The title, in any case, should be a definite one, so that the purpose of the artist or photographer is not diverted, as is sometimes the case when an over-long quotation—poetical or otherwise—is affixed to a picture that would have gained infinitely by a more direct or less verbose title.

Original titles are hard to obtain, hence the free use that is made year after year of the best-known poets for reference. Freshness of the title is undoubtedly a great help in cases where it is prominently brought to the notice of the spectator. Nothing is more tiring than a constant repetition of "Evening Calm," "Morning Mist," "Nightfall," "Dawn," etc.

Brevity, is, nevertheless, an advantage, but here again the lack of originality will frequently pall.

The other side of the title question, and one that is beginning to be more fully appreciated every year, is that dealing with its material application to the mounted print. Now that *passe-partout* mounting is an acknowledged substitute for framing at the exhibitions, and the general employment of multiple mounting is everywhere in evidence, prints, whether framed in light wood or simply bound round in contact with the glass, are frequently helped considerably by the judicious placing of the title on the mount.

Many a composition that is a trifle weak on one side or over-accentuated on the other, is "pulled together" by a correctly placed spot of tone—either lighter or darker than the mount—on the surrounding border.

The Japanese are past-masters at this sort of "decorative corrective," which, in addition to filling a pictorial purpose, is an undoubtedly useful one.

Lettering on the mount should be most carefully done. The best print in the world will be utterly ruined in effect if the title is scrawled untidily on the mount in an incorrect position.

Not only should the writing or drawing be carefully done, but the size and shape of the letters have a greater effect on the appearance of the whole than will be thought possible without making a few experiments. For instance, a narrow, upright, delicately toned picture with a title written in squat heavy letters is not only seemingly pulled awry, but the characteristics of the print will appear affected. If, on the contrary, narrow long letters of a quieter tone are employed, the general trend of the print is assisted, and a feeling of unity is conveyed.

The same applies to a horizontal picture. Here, long narrow letters produce an irritating effect that is not experienced when a squat letter is used.

Ornamental lettering should not be indulged in to any extent unless considerable taste is exercised, but every worker who titles his mounts should be ever on the look out for effective lettering—in advertisements, on posters, or elsewhere—and a collection of notes and clippings of the various styles observed will prove invaluable when a particular print has to be treated.

Lettering on tinted mounts can be accomplished either with a fine pen or sable brush. If the mount is smooth the pen will probably give a neater result. Guide lines should be faintly penciled, so that the entire space to be occupied is clearly defined.

Writing the title in pencil is usually unsatisfactory, unless the mount is a very light one and the pencilling is very faint.

A better result is obtained by diluting ordinary writing ink with water until it gives a gray line when applied with a pen or brush.

Colors should as a rule be avoided for titling the print. Generally speaking, the neater the lettering is, provided it is placed in the correct position, the more likelihood a well-chosen title has of assisting the picture. —*The Photographic News.*

LENSES STUCK FAST.—A few months ago we were using a particularly fine whole-plate anastigmat, of the type which allows one of its combinations to be employed by itself, and wished to use the back lens, but found it immovably fast in the mount. All the devices which have been recommended for dealing with such things were tried, but all were without avail, and after having taken the skin off our hands in futile efforts, it was given up in despair. At that very moment a friend appeared whose professional pursuits have rendered him an adept at extractions (generally of a painful kind). We entrusted the stubborn tool to him, and, apparently without effort, he did what was required. The whole secret of unscrewing a thing of that sort which was stuck fast, he explained, was to press it in at the same time as the attempt to turn it was made. It seemed too simple to be true, but a few days ago we were with a photographer to whom precisely the same thing occurred. Taking the lens from him, we pressed as suggested, that is to say, the lens we were trying to unscrew was pressed towards the diaphragm, and then trying to turn it, it yielded at once. We should advise anyone in a similar difficulty to deal with it in the same way. —*Photography.*

THE AGE OF ROMANCE

EDWARD B. SIDES

ON TRIPODS.

THE WALRUS.

[For several years our English contemporary, *Photography*, has been printing a weekly page entitled "Piffle" by an anonymous genius whose courage in endeavoring to find humor in photography week in and week out is phenomenal. Not less phenomenal is the success which on the whole has attended his efforts. We reprint the following as an average specimen. EDS.]

A reader who has been perusing an article on tripods and is by no means satisfied with the treatment of the subject wishes to know whether I will deal with it for his benefit and that of the rest of the photographic world. Why, certainly I will. Let it be known once for all that I will deal with any photographic topic whatever that may be suggested. Not only is my photographic knowledge wide and profound (stop that coughing, please), but when my memory and reference library alike fail me I am able to evolve things out of my inner consciousness.

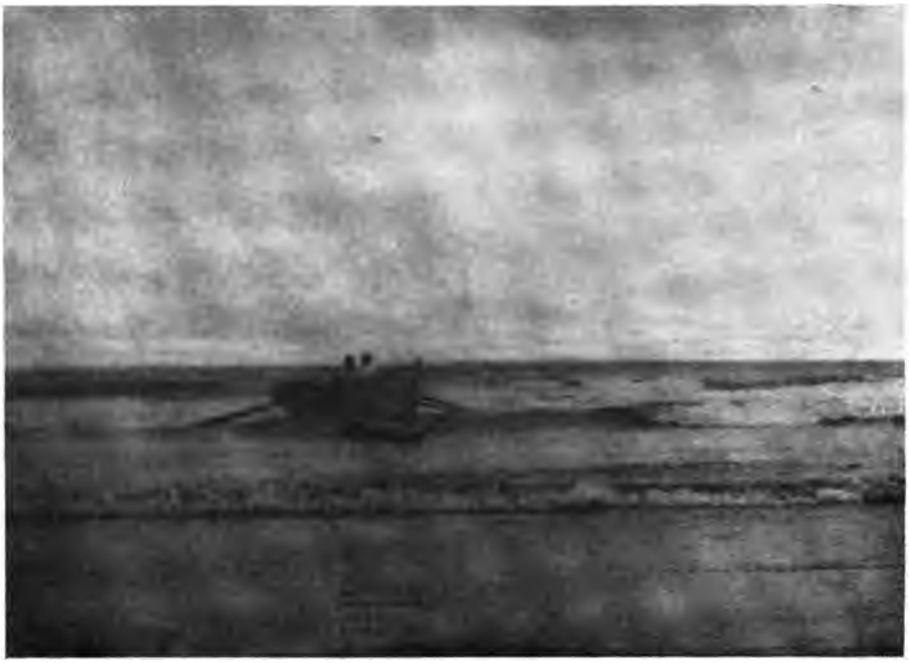
I have read the article on this subject with which my correspondent was so dissatisfied, and do not by any means share his opinion. The writer of the article is a genius. Not because he writes anything brilliant or extraordinary, but because he knows how to make an editor pay for pages of putrid platitudes. Anyone can say that when you have drawn out the sliding joint of the tripod you should tighten up the clamping screw, but very few can persuade someone to pay them for saying it.

Now I come to think of it, I have a sort of vague recollection of writing about tripods before, but if so it is more than likely that what I said then was all wrong, and it is absolutely certain that what I say now will be wronger, because time can hardly be said to have improved my reliability.

I say these things about myself to save other people the trouble.

The first error into which we are likely to fall in considering the question of tripods results from examining the derivation of the word. We find *tri* means three (Greek—*tris*, thrice), and *pod* a foot (Greek—*pous, podos*, a foot). Therefore tripod means three feet; that is to say, a yard. This seems easy, but why in the world is a tripod called a yard? If it were a yard high it would be comprehensible. But it is longer than that, because there are five and a half yards in a pole, and it takes three poles to make a tripod.

Some may contend that a tripod is so called not because it is three feet, but because it has three feet; and as there is a certain amount of reason about this, we may as well adopt it and save trouble. Why does a tripod have three feet? Because it has three legs. Why does it have three legs? Because it has more than two and less than four. The instinct of economy natural to photographers is evidenced by this restriction of the number to three, this being the smallest number that will stand alone, if they are dead legs. There is a unipod, but that has to be stuck in the ground, and there is a bipod, which is only used as an auxiliary to a tripod, and the two together constitute a pentapod. Those who know the amount of deviltry there is in



HOLLY BEACH CHARLES BOOZ

a single leg of a camera stand will rejoice that the number usually stops at three. An octopod, for example, would drive the whole army of photographers off their rockers, if you know what that means.

It has always been the pernicious custom of tripod builders to fit each leg with a point. This serves many purposes. In your house it tears the carpets and catches in the curtains. Indoors and out it sticks in your toes whenever it gets half a chance, or jabs a hole in some photographic companion. In soft ground it penetrates till it is stopped by the bed rock, and on hard ground or a stone floor it slithers about all over the place. One of the chief uses of this point is for sticking a cork on to stop it from slipping.

Some tripods are what are called self-erecting. You catch hold of such a one by its head and give it a shake, and there is your tripod all ready. If you want it shut up again you only have to send it to the makers, and they can generally manage to do it at a reasonable price. One advantage of this form is that it will frequently damage as many as eight of your fingers at one opening.

The height of a tripod is adjusted by means of a sliding leg, which is so arranged that it will give way precisely at the moment of exposure.

It is advisable (according to the writer of the tripod article) to carry an ordinary mechanic's spirit level to get the top of the tripod true. It would be still better to take also the ordinary mechanic to do the leveling. Care must be taken to allow for compass deviation, and to correct the results for temperature and barometric pressure, and to make a note of the latitude and longitude and Greenwich mean time. When these adjustments are complete the tripod may be considered ready for the reception of the camera. This being duly placed in position, the tripod promptly falls down. Those who have ever seen a camel splay out its legs and sink flop down on the arid sand of the Sahara will realize where the tripod has learnt some of its fiendish tricks.

The writer of the article advises the photographer to forestall this catastrophe by testing the firmness of the stand before adventuring the camera on it. One way of doing this is to take a good run, leap high into the air, and alight on the tripod head. You will never know yourself whether the stand stood it, but your executors and the coroner's jury will probably have full information. The non-suicidal method is the one recommended by the writer of the article: Lay your right hand (not your left, mind, and not your foot) on the top and press firmly downward (not upward). But he adds a word of necessary caution. Don't press too hard, or the stand will give its well-known imitation of a camel, or if the ground be boggy "the experiment will resemble an attempt at pile-driving."

Now, some shallow thinkers may say that the writer is talking nonsense when he makes out that a light tripod will sink deep into earth that is solid enough to support a man weighing forty times as much as his outfit. They overlook one important fact—his feet are too big to let him sink in. Some people run to brain and some to feet, and I am convinced that the writer of the article has big feet. I am quite aware that I have myself stated on this very page that a tripod will sink into soft ground, but when that happens I take it for granted that the owner, too, has sunk in. I don't pretend that he is calmly standing on the semi-liquid bog testing with his right hand the stability of his tripod.

It is a wonderful thing to me that in this age of ingenious invention all the tripods put on the market are merely supports for cameras and nothing more. One useful improvement would be to have a roll of canvas concealed in each leg and a hanging lamp in the head. In two minutes you would then have a comfortable and well-lit tent. A little ingenuity would make a tripod easily convertible into a pair of snow shoes, a portable canoe, a fishing rod, a bicycle, or a life insurance policy. Will our inventors wake up?

No remarks on such a subject as this can be considered complete without instructions how to make a tripod at home. Knowing this would be expected, I have been at great pains to get out quantities, prices, and working drawings for a most effective tripod made entirely from three broomsticks, a saucepan lid, half a gridiron, and a pennyworth of hairpins. But I fear this will be crowded out. [It will.—Ed.]

All sorts of things have been suggested as hypo eliminators—alum, permanganates, hypochlorites, iodine, lead, nitrate, hydrogen peroxide, ammonium persulphate, potassium percarbonate.

Water is the best hypo-eliminator, and when properly used is not much trouble. The hypo is more quickly eliminated by six successive soakings of ten minutes each and six changes of water than with the same time of running water.

A CHAT ABOUT POSING.

Carine Cadby.

One of the faults of a good deal of genre work is that the figures are sometimes lacking in the grace of spontaneity and are apt to look a little stiff. Everyone who has attempted this branch of photography knows the difficulty of posing figures. He will see a model in a most charming and natural attitude, but the minute he asks her to repeat the same in front of the camera all charm vanishes, and the pose becomes a caricature of what was at first seen. With children it is almost as hopeless; they can become absolutely wooden, and the poses perfect travesties of childish grace. And we all know how useless it is exposing a plate when this is the case, in the vain hope that it may not come out as bad. Alas! experience teaches us it will come out probably a good deal worse. If the camera can make even a fairly easy pose look stiff and unnatural, it will hardly be more lenient to one starting under adverse circumstances.

Very many portraits are stiff, but somehow one feels less inclined to carp at them, for one supposes knowledge on the sitters' part that they are being taken, in fact are sitting still on purpose, but in figure study and genre work the very last thing one wishes to suggest is that the model is accommodatingly keeping still to be photographed!

Of course, the great bane is self-consciousness. It not only changes faces and ruins expressions, but it utterly spoils poses. It can be writ large over a figure just as evidently as over a countenance, and unless the model can vanquish this enemy, the photographer will struggle in vain with pictorial work. And it is not at all a matter for despair, only for a little practice, and often the most self-conscious models will learn to pose so that they will rejoice the photographer's heart. The great thing is to give people something to do, and let them overdo the doing of it. Photography is, in this matter, rather like the stage, and often requires a little exaggeration of attitude to be convincing. One must always be very realistic—if the model is to be picking flowers, flowers she must really pick. It is no good pretending; she must go through the performance, whatever it is, slowly, over and over again; and it is the photographer's business to watch for an attitude. When he has seen it he should call out, "Stay like that," and focus while the model stays. Stiffer and stiffer will become the attitude, more strained the back, and more aching the arm; never mind, it is good enough for focusing. When this is over the model can have a good stretch, also complain loudly, if it is any relief for cramped feelings: then when stretched and rested the pose can be resumed and the plate quickly exposed.

However interesting it sounds to say the model was quite unconscious when he or she was being photographed, and really knew nothing at all about it, it is a very risky proceeding, and only in very rare cases successful; as a rule, the model knows all about it, and has probably been a very interested and hard-working helper.

With children the case is rather reversed. A child, unlike a grown-up, cannot act appearing unconscious. It is no good in this case for the photographer to watch and ask his little model to resume a pose, for he cannot go back with any ease or naturalness. The only thing possible—if the light is not good enough for instantaneous work—is to ask the small person to "keep like that for a moment," and it must in very truth be but a moment, for how quickly does life and animation die out of face and attitude, even without any perceptible movement, and all spontaneity is lost!

People talk of the difficulty of posing a child, and whoever would be so foolishly daring to attempt it deserves mountains of difficulties. The only person who can pose a child is the child itself. Let it once become interested in a game or amused at a story, and the pose will come of itself; and with a child the attitude should be so simple and natural that pose is hardly the word it should suggest.

It is almost as difficult for a small as a big person to stand facing the camera with nothing to do, and often a most paralyzing rigidity of attitude is the result. With a child one has the advantage of being able to break up the stiffness by giving the little model a jump into the air, and letting her stand just where her feet touch the ground; this relaxes all muscles, mental as well as physical, and, so to speak, clears the photographic air. Grown-ups, alas! cannot be swung playfully off their feet and merrily plumped down again on the floor, but they can break up their stiffness by walking away, taking deep breaths, having a good stretch, and then coming back to start again.

Amateur models, relations, and friends of photographers are an enduring and unselfish race. They will stand and stand, often bend and bend in the most strained and cramped attitudes for the camera man to compose. his picture. It is pathetic to see what often unnecessary trouble these patient people give themselves when they are ignorant of the camera's demands, sometimes a smile, only needed probably a second, being worn heroically for whole minutes, while the photographer is busy getting his background into focus. After all, it is a mistake for models to be too long-suffering, for so much depends on their attitudes. No doubt the photographer's work is very difficult, but it is better to hinder and interrupt him by taking rests and easing cramped limbs than to, in the end, spoil his whole scheme.—*The Amateur Photographer.*

STEREOSCOPIC PHOTOGRAPHY.

When mounting stereoscopic landscape prints the horizons of each print must be level and parallel.

The most pleasing subjects for stereoscopic work are those with objects occupying a prominent place in the near foreground.

It requires far less artistic skill to produce a pleasing and successful stereoscopic picture than an ordinary photograph.

Glossy P.O.P., that has been glazed by squeegeeing on to ferrotype plate or talced glass, gives the best effect for stereoscopic prints.

Exaggeration of relief is the chief defect with beginners' stereograms. This is due to too great a separation between the lenses.

A pair of rectilinear lenses of 5-inch focus are recommended for stereo work. Anastigmats are better and should be used if they can be afforded.

EDITORIAL NOTE AND COMMENT.

The announcement in *The Photographer* that the publishers of this magazine have acquired possession of the *Photo Era* is incorrect. While we have no objection to receiving the free advertising which Juan the Giant Killer sees fit to give us for what we have done in reducing the number of photographic magazines, we object to receiving castigation for imagined offences. Incidentally we may remark that we are willing to purchase only profitable magazines, or we should have acquired *The Photographer* before it entered upon its present policy.

* * *

Our editorial friend, R. Child Bayley, of *Photography,* cannot contain himself for joy because he was able to obtain a supply of Autochrome plates before they were taken off the market, and pokes his brother editors in the ribs every week because they do not become enthusiastic over plates which are not to be had to report on. Our English namesake has certainly scored a "beat" on its contemporaries. To the testimony which we adduced last month has been added a letter from Alfred Stieglitz, who is enthusiastic over the color possibilities unfolded before the photographer.

The Autochrome plate will soon have a rival, as another important firm in France, that of Jougla, is almost ready to market a similar plate called the Omnicolore. Dr. Smith, of Zurich, has Swiss and German patents on a plate of the same general character, and another is being developed in Spain. All in all, color photography seems to be on the verge of general popularity.

* * *

A member of a Western camera club writes us a letter in which he states that the members of his club have had a lively discussion as to the number of amateur photographers in the United States. Naturally they were unable to come to any conclusion on the subject, and so turn to us for information, with the flattering insinuation that we must know all about it. Unfortunately, we don't. If we did, from accurate information, we would probably be happier than we are now. Nothing would please us better than to know the whereabouts of every camera user in the United States, so that we could convince him that he should read a photographic magazine. You who read this probably do not comprehend that there are experienced photographers in America who do not read magazines. Yet the writer of this paragraph last Summer in one day scraped acquaintance with three men carrying cameras, all of whom produced excellent work and were experienced amateurs, all of whom lived in New York City, and none of whom had ever seen any photographic magazine. So we do not feel justified in proclaiming the number of our readers and estimating that that is the number of amateur photographers in the United States.

We have seen a statement that a single firm of American lens makers has produced more than 4,000,000 lenses for cameras. That is something to pin a guess on. Another fact is that by actual observation one passenger in every five in six ship's companies which have crossed the Atlantic within five years carried a camera. Another is that at least one out of every ten persons at any Eastern Summer resort is sure to have a camera with him or her. But when we have collected all the data we are likely to get, guesses of one or three or five millions as the number of cameras actually in existence in the United States to-day are all equally legitimate.

* * *

Great improvements have been effected by Prof. Korn, of Munich, in his apparatus for sending photographs by telegraph, and several foreign illustrated papers have begun to use the process commercially. Photographs six or seven inches square can be transmitted in ten to fifteen minutes. The photograph is placed on a transparent glass cylinder, which revolves slowly and at the same time moves right to left. A ray of light is thrown on the cylinder by means of an electric lamp and lens, and when the ray reaches the interior of the cylinder it is brighter or darker according to the coloring of that particular part of photograph through which it passes. Inside the cylinder is some selenium, which transmits the electrical current in proportion to the intensity of the light brought to bear on it. The receiving apparatus consists of an electrical Nernst lamp placed inside a glass cylinder covered with sensitized paper, on which is reproduced the photograph in its exact shades, provided that the cylinders at each end of the wire revolve at exactly the same speed. It is hoped to make such improvements in the apparatus as will enable pictures to be photographed in two minutes.

* * *

In a recent lecture before the British Royal Photographic Society, Dr. W. J. S. Lockyer said that moving the camera when photographing lightning was of special value in the case of ribbon lightning, where the streams took parallel courses, and in that of multiple lightning, where the flashes took the same path. The more quickly the camera was moved the more clearly were the separate images gained. It could be moved by hand, a pendulum could be used, or the cinematograph film. One worker, Dr. Walter, of Hamburg, had so elaborated this plan with a camera moved by clockwork as to be able to measure the distance between multiple flashes in time intervals. Dr. Lockyer had solved several debatable questions about lightning. He had found, for instance, that the beaded or chapleted effect which some observers claimed to have seen in lightning could be gained by moving a camera about in front of street lamps when there was an alternating current. He believed that some flashes of lightning moved from earth to cloud. They always pointed to the negative pole, and in some cases there was no doubt that the cloud was the negative pole and the lightning flash proceeded from the earth.

Both plates and films are most expeditiously finished and dried by repeated soakings in methylated spirit.

After washing, the prints should be blotted and soaked in methylated spirit, then blotted again, and dried in front of the fire.

DESOLATION Will A. Hatch

OUR PRIZE COMPETITIONS.

The subject for the September Competition, closing October 1, is Marines, including views of the sea or great lakes, shipping, yachts and harbor scenes. Prints must be sent to Frank R. Fraprie, 6 Beacon street, Boston, Mass., and *not to the New York office.*

These competitions are open to any photographer, whether a subscriber to American Photography or not.

The first and second prize winners will be awarded bronze medals. The first prize winner, in addition to the sum of five dollars, will receive a bronze medal with blue ribbon and silver bar. The second prize winner a bronze medal with red ribbon and bronze bar. Those submitting good work, but not sufficiently high to warrant a prize, are accorded honorable mention. Pictures awarded prizes or honorable mention may be reproduced, and unsuccessful pictures will be returned if requested.

Future subjects are: For October, Mountains; also Calendar Competition; closes November 1. For November, Atmospheric Effects, including Fog, Mist, Rainy or Snowy Days, Rainbows, Sundogs, Clouds, etc. For December, Genre. For January, Portraits. For February, Snow Scenes.

CORRESPONDENCE.

Questions for answer should be sent to **Frank R. Fraprie, 6 Beacon St., Boston, Mass.**, or to Dr John Nicol, Tioga Centre, N. Y. **Answers by mail will be made only in exceptional cases.**

Editors American Photography:

Gentlemen—I note in your June issue of the American Amateur Photographer two "At Home" portraits and an explanation of the arrangements by which they were obtained.

The enclosed likenesses were taken in a bedroom about 3 P. M. on a bright winter day. The exposure was three seconds with Voigtlaender 5 x 7 lens working at f-5.6, entirely without reflectors, screens or head rests; and, as you will see, have not been retouched. The background was a piece of unbleached muslin tacked on a frame about 6 x 6 feet, the muslin extending along the floor about six or eight feet more. This extension is rolled up on an ordinary curtain pole when not in use and held on the frame by hooks and the frame slides in behind the head board of the bed out of sight.

The frame is supported by bracket feet on casters, held to the frame by bolts which permit them to turn parallel with the frame itself when stowing behind the bed. (The sketch, Fig 1, will explain the construction.)

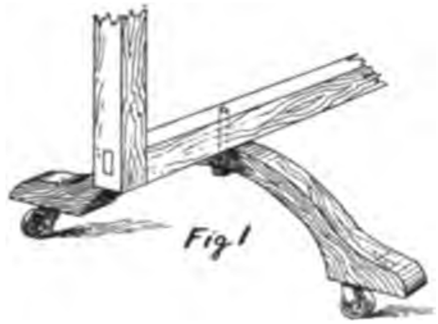


Fig 1

The object of the extra length of muslin is to make a continuous background, thus avoiding in full length portraits the line of the lower edge of the background across the back of the subject.

Like the Doctor, I shut out all light except from one window and only the upper part of that is used. The lower part is shut off by an opaque curtain mounted on an ordinary shade roller upside down, the cord from which passes up to the top of the window on a pulley screwed into the window frame. By this means the curtain can be raised from the bottom to any height desired to obtain different forms of lighting. The clear glass space in the window, when the enclosed subjects were taken, was about two feet square.

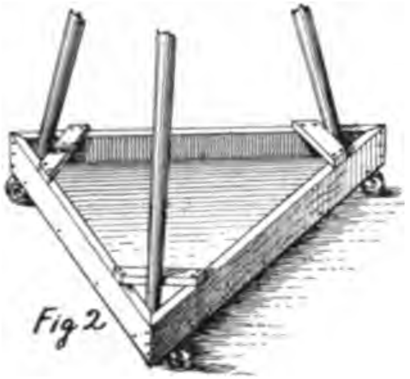


Fig 2

My camera stand consists of an ordinary tripod, standing on a little triangular platform mounted on casters, which anyone can make out of an old box. This useful contrivance, which permits me to slide the camera backwards or forwards or sideways, without getting it out of the parallel, I recommend to all who practice home portraiture. Being flat, it can be set almost anywhere out of sight when not in use.

The annexed diagram shows the position of the sitter and the direction of the light. A, A, windows, light shut off. B window from which light was taken.

HOME PORTRAIT EDW. W. BOWNE

C, background. D, sitter. E, camera. Fig. 4 shows how the Rembrandt lighting was obtained from the same window. The background can be placed at either side of the window to give choice of side of face desired.

The prints herewith are not offered as in any sense works of art. They are, indeed, only proofs made to see what was in the negative, without any finishing, and are sent only for the purpose of illustrating the lighting obtained by these extremely simple methods, which, in the hands of a more painstaking man, could be readily made use of with excellent results.

An essential feature in portraiture is modeling, obtainable only by getting the shadows, especially the shadows under the nose. The lights in eyes are correctly secured by moving the sitter nearer or further from the light, by raising or low-

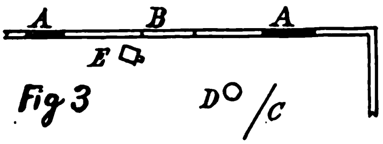


Fig 3

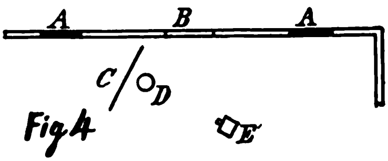


Fig 4

ering the opaque curtain at bottom of window to suit the circumstances, and seeing that the face is turned just sufficiently toward the light to softly illumine the shadow side of the cheek.

The camera can then be placed anywhere to obtain the view desired and the face will be fully lighted. In bright summer days the exposure will not require more than two seconds between 10 A. M. and 3 P. M., if room has southern exposure with lens working at f-5.6. It is easy to figure the exposures for the stops This is the form of lighting advocated by Mr. Todd, nothing new to be sure, but overlooked so often by amateurs that it ought to be called again and again to their attention, it is so easily applicable to almost every home.

Very truly yours,
Edw. E. Bowne.

ANSWERS.

Bert Leach.—We could advise you better regarding the stain on the film if we saw it; but on the supposition that it is, as you think, from printing while either film or paper was slightly moist while printing, soaking in a weak solution of potassium cyanide—about ten grains to the ounce—for a few minutes should remove it. It is more likely, however, to be the result of insufficient fixing—removed too soon after the yellowish silver bromide has disappeared; and if so, we know of no method of removing it without distroying the image.

Louise Brunton.—See reply to Bert Leach Your dealer is mistaken in saying that the plate should be removed from the fixing bath "as soon as the creamy appearance has gone"; it should be allowed to remain in it for at least half as long as it took to become transparent in the shadows. Fifteen minutes or more in a 1 to 4 solution of hypo.

G. R. Simpson.—We cannot here recommend any particular lens, but may say that in your case the only question between a modern anastigmat and the older rectilinear is one of time. If, as you say, you don't care for snapping but prefer to use the camera on the stand, the latter will do for you all that can be done by the former, and do it as well.

HOME PORTRAIT Edw. W. Bowne

Ambition.—We have no hesitation in recommending small negatives, to be afterwards enlarged, and saying that most of the exhibiting pictorialists now adopt that method. In Britain 3¼ x 4¼ is the favorite size, while here it is more generally 4 x 5. Get the best you can of either of these sizes and employ it generally on the stand, giving sufficient exposures to give negatives full of all necessary detail, without making but the highest of high lights opaque, and trusting to the enlarging of the negative and printing therefrom for the introduction of such art qualities as you are competent to produce

OUR PORTFOLIO.

Prints for criticism under this heading should be sent to Dr. John Nicol Tioga Centre, N. Y. Only one by each reader will be criticised each month, and if more are sent the surplus will go to the waste basket. Mr. Fraprie and Mr Chalmers will also criticise prints if sent to them at the addresses given on the contents page

35. S. L. KETCHAM.—Pleased to hear from you again. "In the Heart of the Green Mountains" is a good landscape with a wealth of detail that borders on surfeit. The main feature in the composition, the large tree on the left, we would have liked to see more of; in fact, as there is no balancing object, it would have strengthened the picture to have turned the camera so that this tree almost reached the center. The sky is beautifully rendered, but there is still too violent contrast between the lights and shadows—the almost white roadway in direct contrast to the opaque shadows under the trees is not as you saw it in Nature. Seems like under-exposure yet, but a decided improvement on the last.

36. CHAS. I. HOLLANDS sends four examples of fair photography. "A Silent Pool" is the best in composition. "Spring Landscape" and "A Fallen Monarch" are but ordinary and one bad feature shows in all prints; there is no attempt to render atmosphere or a sense of distance—everything, from the foreground to extreme distance, is equally sharp. Subjects like these which have no one point of interest should at least be rendered with some distinction between the planes. With the exception of one, the prints all seem to be over-timed and have that olive black tone which betokens too much bromide in the developer. "A Camera Fiend"

THE FLOCK F. C. BAKER

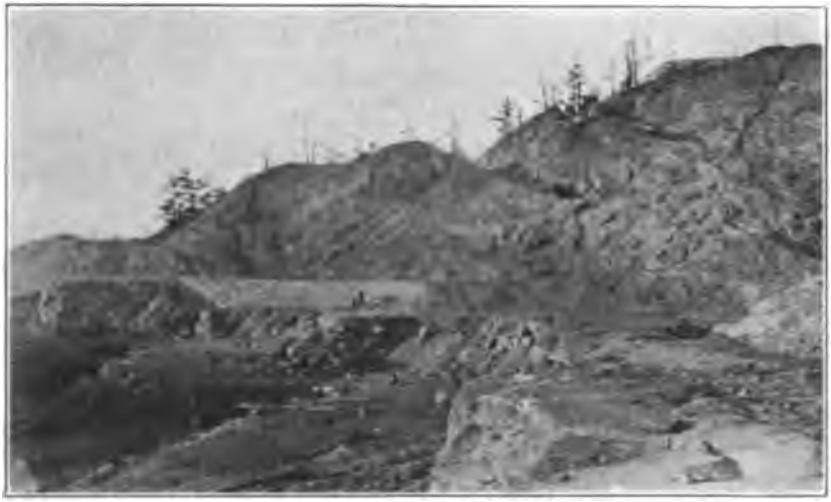
with its two subjects so wide apart and out of sympathy is bad composition.—C.

38. F. C. **Baker**.—"The Flock." From twelve to fifteen sheep is hardly what is understood by a "flock," and for pictorial purposes they would have been better a little scattered than, as they are here, in a short straight line, although they have the advantage of going across the picture at an angle. Taking it all in all, the picture is effective and grows on us the oftener we go to it, and as we come to recognize how well the different planes have been reproduced, and catch something of the poetry of the connection of the distant old tree and the nearby young sheep.—N.

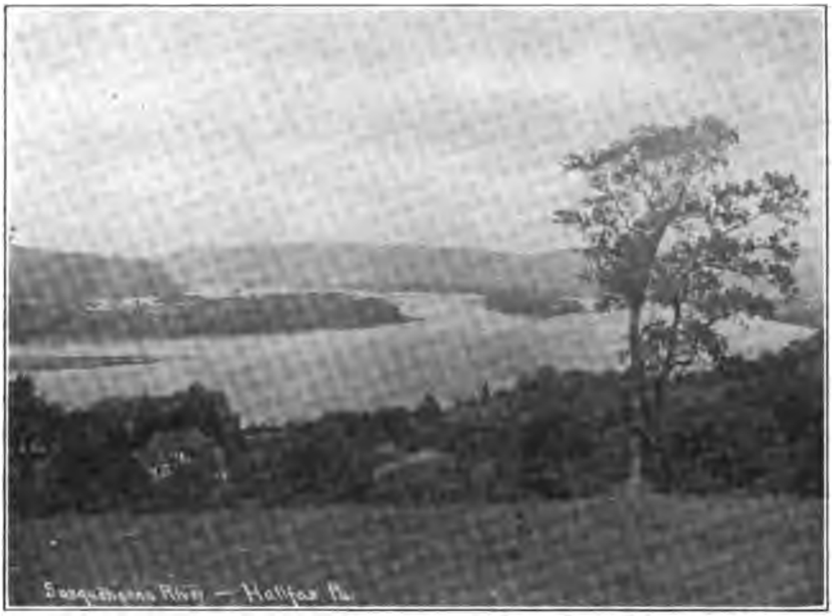
39. L. J. **Mulhausen**.—The unnamed print can hardly be called a "picture," as it possesses none of the generally recognized pictorial qualities, especially no object of more importance than another. No indication of atmosphere, and instead of sky, merely unchanged paper. As a mere photograph, or "record of fact," the negative has not been sufficiently developed, and the print is too deeply printed; the trees being simply black lines, as black as charcoal. As to "softness," or contrast, that must depend mainly on the taste of the author and the nature of the subject.—N.

40. Eugene E. **Moyer**.—"Cornwall Ore Banks." We select this as the better of the two, or rather the more interesting, only one being noticed at a time, as you may see from the magazine. The print has no pictoral qualities, but as a "record of fact" is of quite as much value, and it is very good. It is simply a mountain of iron ore, visited by thousands every year, and represents "untold millions," ready for the digging and reducing. The print is an illustration of the value of this phase of photography, showing to thousands much that they could never otherwise see. The photograph is very good.—N.

41. Wm. J. **Smith**.—"The Susquehanna River" is an interesting point of that beautiful river, showing some of its many islands and interesting banks, but the photograph does not do the subject anything like justice. We are somewhat in doubt whether the fault is with the negative or the print or, more likely both, as the print is a dull gray without sufficient contrast. Were it not for the



40 ORE BANKS EUGENE E MOYER

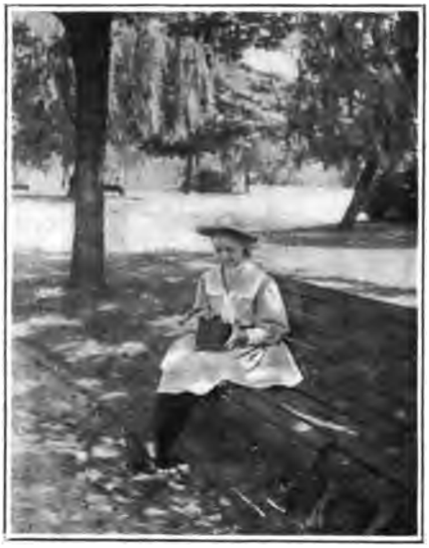


41 **Wm. J. Smith**

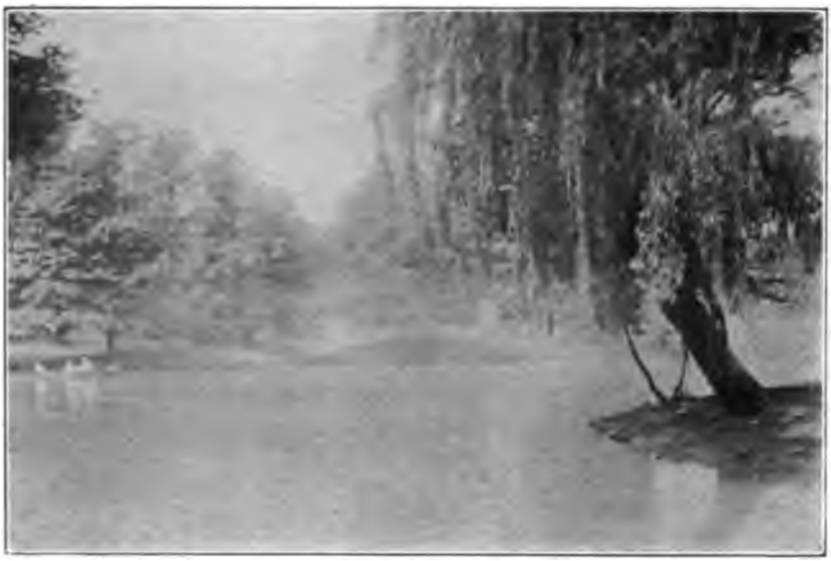
clouds, the only really fine part of the print, we should say that its lack of contrast was due to too much over exposure and consequent flatness of the negative, but the beautiful cloud makes that out of the question. The eye that selected the point of view is all right, but there is room, much room, for the improvement of the technique.—N.

42. **Otto Sellers.**—"Where the Water-cresses Grow" does not look, to us at least, like what is suggested by the title. It is more like a place from which all the large trees had been removed, leaving only such as were hardly large enough for firewood, with canal or stream running down the center. As a photograph of the record quality it is fairly good, but without a trace of the pictorial or picturesque. No one thing is more important than another, the most distant object is as well defined as those in the immediate foreground, nor is there anything in the whole composition worth photographing by itself. In other words, it is a very good photograph of a subject not worth photographing, or at least photographing as it is done here. We may notice the other in our next.—N.

43. **H. F. Rolker.**—The unnamed print, a young girl on a garden seat with all the ground in the distance and much



43 **H. F. Rolker**



44 SUMMER TIME HORACE E. STOUT

of the foliage covered with snow. It may not be, probably is not, snow, but that does not alter the fact of the appearance, and only seems to show how much the photographer has to learn of photographic technique, the easiest thing of all to learn. The girl has probably been placed so as to be out of the sun, and development has been pushed to get detail, but pushed till all that was in direct sunlight became, in the negative, quite opaque, and left the print simply white, or unacted-on, paper. Then the face, the most important part of the composition, is too flat, without light and shade, as faces should have. Try again, see that the face is properly lighted, and develop with a solution weak enough to produce sunlight without opacity.—N.

44. HORACE E. STOUT.—"Summer-Time." A foreground of water and a distance of foliage without the necessary planes between, is not a subject of much interest, and all the less so when the print is one of those pale, "washed-out" grays that always puzzles us as to whether it is the fault of a too thin negative, improper printing, or unsuitable paper; we mean a paper unsuited to that class of negative. On the extreme left margin there appears to be a boat with three figures, which if larger and in the vacant spot to the left of the tree on the right, it might have made all the difference, made a picture of what is now a poor print of the "record" variety. Photographic technique is now so simple and so easily acquired that there is no excuse for prints of such poor quality.—N.

45. H. E. STOUT.—"A Harbor Scene" is another of the low toned effects which you seem to fancy. This is less faulty in that respect and may be taken for a hazy evening scene, such as is frequently observed in the lower harbor. The main point of interest would have been better placed a little lower so as not to cut off the masts and help fill up the too large expanse of water front.

46. WM HAWKIN.—"The Park Bridge" is none too carefully focused and the time, 1-100 second, should have been at least doubled so as to render the desired detail without forcing development until all the high lights are equally opaque in the negative. A bridge, such

as this, running straight across the center of the print is very unpicturesque and should never be tolerated unless for record purposes.

47. M. B. Gowdy sends us a couple of souvenir post cards, both good pictures of an angry sea after a storm. Excellent in tone values and with just the right exposure to render the breaking waves as they ought to be, but seldom done so well.

48. C. E. M. (Denver).—"Picturesque Spot at the Fish Hatcheries" is robbed of all its picturesque beauty by under exposure and forced development. The use of a too small diaphragm renders all the foliage, far and near, with wiry detail—all except that which is buried in a mass of black. There is no difference between the white paper which does duty for sky and water alike. You have learned to focus and compose your picture well, but you must also learn to expose and develop and then select the printing paper most suitable to the negative and subject. Hope to hear from you frequently.

49. Chauncey H. Rice.—"The Bridge" is a very good photograph of the "record" variety, but should have had more foreground, something to give stability to the bridge, and it should not have been taken "straight on"—placed more at an angle across the print. The white sky is also a serious fault and should be avoided in future. The study of some work on art, such as Burnet's Essay's, would be helpful to you.

50. Elizabeth D. Griffin.—The portrait is a poor print from what seems to be a very good negative. We say "poor print" because of its disagreeable slaty bluish color. Good as is the negative, it would have been better with a little longer exposure, the light and shade of the dress being too hard, a result of forcing the development to secure the necessary detail in the shadows, and as it is the arms are much darker than in the style of lighting they should be. The expression, arrangement and placing are all very good.

51. H. Shireley.—"The Bridge" is a good photograph from probably the worst possible point of view. The bridge itself is neither beautiful nor picturesque, and yet it is the chief feature in the composition, and taken "straight on," as such a bridge never should be. See the advice given to Chauncey H. Rice; you have need of it. The photograph, as we have said, is good except for the "bald-headed" sky—the sky of simply white paper is simply intolerable and can easily be avoided by any of the many methods for that purpose.

52. Mercedes Saltmarsh.—"Making the Shirtwaist" is creditable as an early attempt in home portraiture, but at the same time has some faults, which, when pointed out, should be easily corrected in future work. The exposure seems to have been nearly correct, erring slightly on the side of underexposure, if at all. Development, on the other hand, seems to have been carried too far, so that the fine details in the whites are lost. On subjects of this character give full exposure and develop in dilute developer, stopping, before the high lights begin to clog up, and thus getting a negative which will print quickly and give good detail. As far as the composition is concerned, the interest is too evenly divided between the two figures of the same size, in the same plane, and equally distant from the center. The eye wanders from one to the other, and finds no principal point of interest.—F.

53. P. L. Anderson.—"When the Sun's Last Rays Are Fading." Your print does not seem to carry out the poetic title. Doubtless there was a beautiful glow in the sky, but there is nothing to indicate it. The sky is too blank and uninteresting. Note the first prize in Landscape Competition. The old dead tree is not particularly beautiful, and adds a dreary effect, which you did not intend. This may be said in favor of your print: its composition is simple. We are quite sure you can do something much better if you think out a different composition for your sunset effect.—F.

SOCIETY NEWS.

Reports of meetings and exhibitions and announcements of forthcoming events are solicited for publication under this heading.

THE NEW PRINT INTERCHANGE.—Mr. Percy M. Reese, President of the Photographic Club of Baltimore City, Maryland, in response to our request for the details of the new Print Interchange, writes as follows: "This new form of Interchange has been the most interesting and most valuable new feature enjoyed by this club in its twenty-two years' existence. It originated in the minds of Messrs. W. F. Peabody, of the Capital Camera Club, and S. S. Skolfield, of that of Portland, last November, and these, upon invitation, were joined by the Photo Pictorialists of Buffalo, the Photographic Society of Philadelphia and the clubs of Pittsburgh and Baltimore, and early in January the six sets of '50 or less' prints were on the road. Although so hastily collected, the exhibitions were fairly representative of the work of the several clubs and, of course, of very varying degrees of pictorialism and artistic merit. But this variety only served to increase the interest, as each followed the other around the circuit, and hung about a month on the walls of each of the six clubs. Only two of the sets were framed; the others mounted, more or less appropriately, or inappropriately; the ensemble giving us a lesson in mounting no less valuable than the pictures themselves. The very handsome leather portfolio, decorated in pyrography, enclosing the Buffalo exhibit, was a study in itself. But more than all else to use of Baltimore was the book which accompanied each set, with a page or two under the head of each print, on which was written a criticism or comment at each stopping place. Opinions often differed, of course, but we found the evenings devoted to reading aloud these books, while our members sat looking at the prints on the walls, so interesting, so amusing, so invaluable as object lessons, that it was almost always necessary to repeat them two or three times or more. And when our own set at last came back to us, and a full attendance or our membership heard read the comments upon it, the universal opinion prevailed that no field night in the memory of our oldest member had approached it in interest or value. Our men have never been pictorialists, and they know it, but they would like to be, and the words of kindly, helpful advice, in an elder-brotherly, not patronizing style, of men who knew of what they wrote, particularly those of Porterfield, Zimmerman, Skolfield and others, were gratefully accepted and enjoyed, and will result, we are very sure, in a much more 'pictorial' exhibit from Baltimore as a contribution to the Interchange next Fall. The expenses have been only the expressages, which are very light. We have applications from three or four others of the best clubs in the country, which will fill out our circuit."

* * *

THE AMERICAN LANTERN SLIDE EXCHANGE.—The annual call for new sets of slides for the season of 1907-8 has been sent out by the general manager. Each club comprising the Interchange is requested to submit a set of at least 50 nor more than 125 slides descriptive of a variety of subjects and possessing as much pictorial quality and interest as possible, to be sent to the general manager, F. C. Beach, 361 Broadway, New York, by November 15 next. Shortly after this date the board of five managers meet in New York, examine and test the slides in the lantern, and select those, by vote, of good quality and general interest for the formation of new sets to be exhibited during the coming season. It is desirable for each club to appoint special committees to interest the members in the subject and collect, test and sift out the best slides obtainable for submission to the board. Care in this respect relieves the work of the board very much. The general improvement in the quality of slides sent by a few clubs in last year's collection was very noticeable and commendable. The system of reimbursing to clubs situated at distant points from the Eastern section of the country for the amount paid for expressage above the general average paid by the near and far clubs appears to operate very satisfactorily. Each club in the month of September is required to elect or appoint a member to act as Lantern Slide Director, whose duties are to receive, care for and ship sets of slides as they are sent to the club for exhibition purposes. For the past seventeen years the packing of slides in Interchange boxes lined with rubber grooved strips has prevented breakage to a remarkable extent. By this method the edge of the slide is surrounded at all points by a flexible cushion; rubber on two edges and felting on the other two. The largest percentage of breakage occurs during the handling of the slides, due sometimes to the accidental dropping of the plates or of their falling off of a table. The slides contributed to the Interchange are simply loaned for a certain time and then ultimately returned to the sending club for redistribution to their respective members. Clubs desiring to participate should communicate with F. C. Beach, General Manager, 361 Broadway, New York. The present Board of Managers consists of F. C. Beach, H. R. Terhune, of Orange, N. J.; John P. Zenner, of Buffalo, N. Y.; Herbert F. Smith, of Syracuse, N. Y., and O. C. Reiter, of Pittsburgh, Pa.

* * *

THE BOSTON CAMERA CLUB sustained a heavy loss in the sudden death, on August 2, 1907, of its president, William Robinson Cabot. The sad occurrence was unexpected, Mr. Cabot having been in the club rooms but two days before He was elected a member of the club in 1902, and at once took a prominent part in its affairs. Possessed of much energy, artistic feeling, and executive ability, he immediately became a favorite with the entire membership, and was elected to the presidency in January, 1904, an office which he held until his death. The vacancy which he leaves will be difficult to fill.

* * *

ONE of the most popular clubs in the city of Gloucester, Mass., is the Cape Ann Camera Club. They do nothing by halves. Twenty of the members are at present touring through the White Mountain region in five big automobiles.

* * *

LARGE PICTURES no longer impress the judges at photographic conventions. At least this is the impression given to those who saw the competition pictures at the Indiana Convention recently held in Winona. The awards invariably went to small pictures, although some of the larger work ranked high.

* * *

SOCIABILITY among photographers cannot fail to be beneficial in many ways, and others should follow the example of the Buffalo Section No. 6, of the Professional Photographer's Society of New York. On Friday, July 12, they closed their studios for the day and enjoyed a sail around Grand Island.

* * *

A NOVEL and interesting one-man exhibition is now on the walls of the Wisconsin Camera Club. The exhibit is the work of S. L. Stein and illustrates all the mechanical application of photography, also the adaptation of the permanent photographic print to various surfaces for decorative and other purposes. There are pictures on silk, Japanese tissue, platinum prints on vellum and carbon prints on parchment and celluloid. The collection is made from a set of negatives that speak highly for Mr. Stein's skill and good taste.

* * *

A LETTER from the Pen, Pencil and Camera Club, of Pittsburg, Pa., in regard to the exclusion of photographs from the Carnegie Art Gallery, has been received. We may return to the matter in our next issue.

OUR TABLE.

Material for examination and books for review may be sent to any of the editors.

"WITH THE CAMERA," the monthly circular from the Gilmore College of Photography, casts a gloom over us this time, telling, as it does, of the suicide of Miss Laura Roneldson, a student of 1903. We met her first at the Clifton Springs Sanitarium, and it was by our advice that she became a student at the college, although with no intention of becoming a professional, having in New York and elsewhere property sufficient for all her ordinary wants. For some time we kept up a correspondence, her last letter telling us of her approaching marriage to one of her fellow students. Some years after we received a picture post card from Edinburgh, taken from a point that we had often talked about as being the best for a certain view; and the notice in the circular to-day is the first we have heard from or of her since. She was a warm-hearted, lovable young woman, and the scarlet fever, from which she was suffering, must have unbalanced that wonderful adjunct of our economy, the mind.

From the circular we learn that present and former students made a good showing at the National Convention at Dayton, over thirty being included in a group which did not include all. It tells also, as usual, of weddings, successes of former students, both as employers and employees, and of visits of former students, all glad to return to renew the delights of their Alma Mater. It is very evident that those in authority know how to combine instruction with pleasure, and make Effingham a place of happy memories.

PHOTOGRAPHISCHES REZEPT-TASCHENBUCH. Eine Sammlung von erprobten Rezepten für den Negativ- und Positivprozess unter Berücksichtigung der neuesten Verfahren von P. Hanneke. 176 Seiten. Preis in Leinenband M. 2,25. Gustav Schmidt, Berlin W. 10.

Die vorliegende Sammlung soll in erster Linie für den Gebrauch des Fach- und Liebhaberphotographen dienen; sie berücksichtigt alle Gebiete der Negativ- und Positivprozesse, welche von jenen praktisch ausgeübt werden. Es sind nur solche Vorschiften aufgenommen worden, deren praktische Brauchbarkeit vom Verfasser selbst erprobt worden ist oder bei denen der Name des Autors eine Garantie für Zuverlässigkeit bietet. Verfasser ist bei der Anlage des Buches ferner von dem Standpunkt ausgegangen, dass die Rezeptsammlung eine Ergänzung zu unseren Lehrbüchern, insbesondere auch zu denen für Anfänger, bilden soll.

Wir empfehlen dieses Buch als eine ausserordentlich willkommene Bereicherung der photographischen Literatur unsern Lesern angelegentlichst. Bei niedrigstem Preis ist hier eine Fülle zuverlässigen und erprobten Materials geboten, wie es jeder, der in der Praxis steht,—sei er Fachmann oder Liebhaber,—gebraucht. Das handliche Format, die übersichtliche Gruppierung und der praktische Einband gestalten das Buch auch in dieser Hinsicht zu einem nützlichen Werkzeug beim Photographieren.

THE ANNUAL CONTEST of the *Youth's Companion*, of Boston, Mass., will close November 2. This is the twelfth contest held by this periodical, and many of the most prominent photographers of the country have been prize winners in past years. The awards total $420.00, divided into ten awards, and will be given for sets of not less than five pictures in which the human figure is the chief subject of interest. The conditions may be had by addressing the Photographic Department, *The Youth's Companion*, Boston, Mass.

RECENT PHOTOGRAPHIC PATENTS.

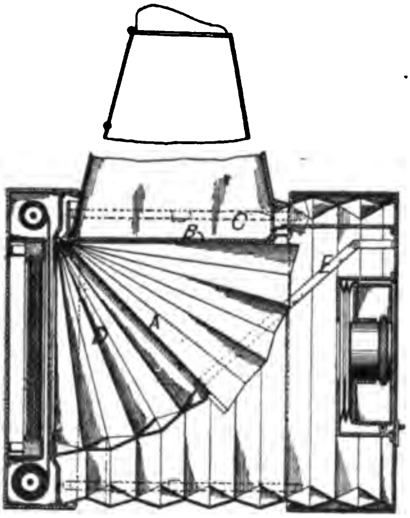
June 25, 1907.

857,697. LIFE-MOTION PICTURE PROJECTING MACHINE. Orville T. Weiser, Philadelphia, Pa.

The invention consists of a device for automatically opening and closing a door in front of the film cell when the body of the lantern is shifted to one side. When the lantern body is in front of the film cell the door is closed. It is primarily designed to protect the film from ignition and allow easy access to it.

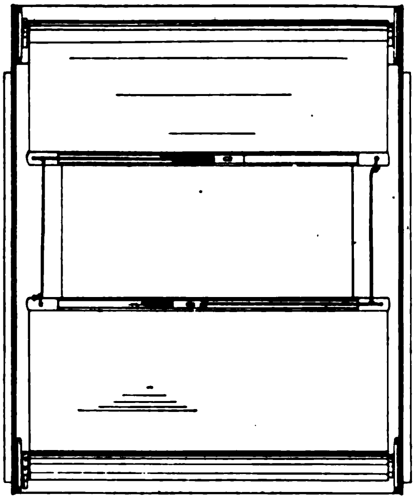
858,145. PHOTOGRAPHIC CAMERA. Louis Borsum, Plainfield, N. J.

An improvement on the L. J. R. Holst camera patent of February 17, 1903, of the reflex hand camera type, wherein the mirror is arranged at an angle of 45 degrees to reflect the lens image upward upon a ground glass. The front section of the camera carries a supplemental interior box or compartment in which is the lens adjustable in the usual way. This part may be folded rearward against the rear part carrying the focal plane shutter and plate holder. The front and rear portions may be readily drawn apart by the extension of a collapsible bellows inside of which is the hinged reflecting mirror. The bulk of the camera may be considerably reduced. The swinging mirror A is pushed upward by a spring behind it against the ground glass B, forming the bottom of the observation hood C. When the camera is extended the mirror is held down by a release latch operated by a push button on the side. The hood C is pushed down into the box when the camera is condensed for carrying, and is extended or drawn out for use. Attached to the sides of the box inside, behind the mirror A, is a special exposure segmental bellows D, open at its front end, and which, when the mirror flies upward, allows the image to pass from the lens to the plate. When the mirror is down the light is cut off from the plate. The compactness of this camera is one of its important features.



858,146. PHOTOGRAPHIC FOCAL-PLANE SHUTTER. Louis Borsum, Plainfield, N. J.

Consists in providing the edges of the shutter opening with metal strips, having an undercut way in which a frictionally held adjusting slide works. A cord attached to each slide is passed in a special way through the end of the strip upon which the slide is mounted and is then attached to the corresponding end of the other strip. To adjust the width of the exposure opening it is only necessary to operate the slides to one side or the other to widen or narrow the slot. Each edge is left parallel with the other.



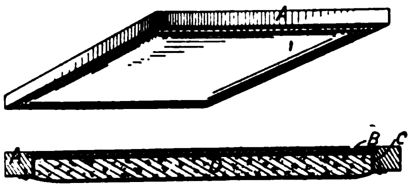
858,162. PROCESS FOR THE PRODUCTION OF PHOTOGRAPHS WITH ANY DESIRED BACKGROUND. Friedrich J. Dischner, Zurich, Switzerland.

The object is placed in a subdued light in front of a white background, a positive transparency of any desired scene is inserted in the plate holder in front of the sensitized plate, a brief exposure is then made, by which the light impresses the image of the landscape transparency on the plate, but the light from the figure does not affect the plate, as it is like a silhouette. The white background is raised behind the figure, leaving a black ground. A second exposure is made, during which the sitter is brilliantly illuminated. This affects the portion of the sensitized plate in shadow before, and the plate is developed as usual, producing one negative with the figure properly lighted in a prearranged background. The first exposure through the transparency is not affected by the second exposure because the light is all absorbed by the jet black background.

July 2, 1907.

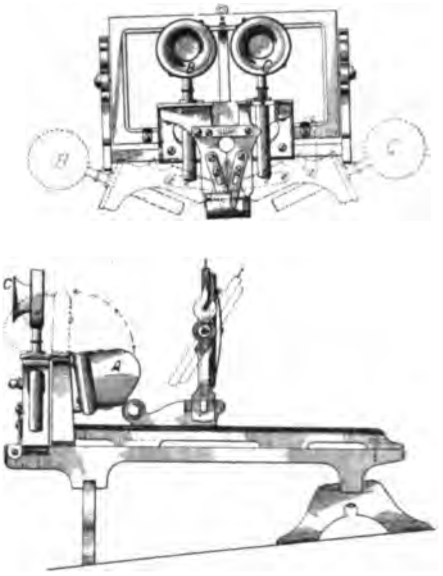
858,570. PAD FOR PHOTOGRAPHIC PRINTING MACHINES. Joseph C. Calhoun, Holland, Mich.

The object of this invention is to provide an improved pad having a smooth yielding surface to engage the photographic paper and hold the same in contact with the negative. A represents a frame of any desired dimensions, within which is a backing plate B to support the bottom of a sheet metal tray C inserted within the frame and in contact with the backing. Within this tray and projecting below the same is a composition of elastic material having a smooth and level under surface projecting somewhat below the frame and tray. This material is preferably made of a mixture of brown glue, or gelatin, water, glycerin, and non-drying oil (preferably machine oil) in substantially the following proportions: glue, thirty pounds; glycerin, two and one-half gallons; machine oil, three gallons; and water as required. These are mixed by first soaking the glue in sufficient cold water to soften the same, melting the glue by the application of heat and then adding the glycerin and oil and immediately incorporating the mixture while fluid. This mixture while in the fluid state is then poured into the tray and sufficient surplus retained therein by surrounding the tray with upwardly projecting walls of any suitable material such as paper or pasteboard, which latter are removed after the contents of the tray have become cold. This composition D is quite elastic and is preferably covered with a sheet of some non-porous and yielding substance, such as oilcloth or thin sheet rubber and the edges thereof secured to the frame by suitable fastenings, such as small tacks. This pad when thus constructed, it is claimed, will retain its elasticity for a long time and presents a very smooth and uniformly yielding surface to the paper and imparts no moisture to the paper.



858,979. OPTICAL INSTRUMENT Sten E. Hammar, Chicago, Ill.

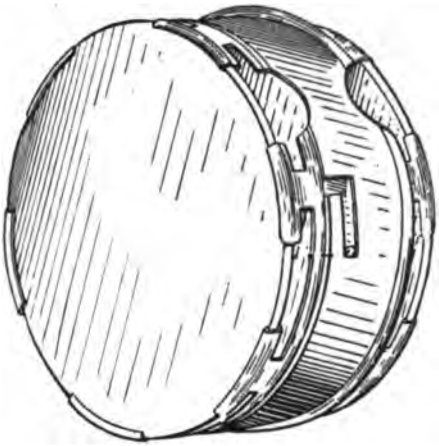
A combined stereoscope and graphoscope. The angularly movable lenses may be adapted adjustable for graphoscope purposes, or used in vicwing single pictures, such as picture postal cards and the like, while the lens-box A may be used for regular stereoscopic or double pictures. Single and double pictures may be inspected alternately with little trouble by merely pushing apart the lenses B and C and raising into position the lens-box A, or reversing the operation as the case may be. The frame holding the pictures is adjustable up or down and on its pivots for the purpose of placing the pictures in correct positions relatively to the lenses. The tilting of the pictures one way or another, according to the light, will make them clear to the user's eyes. The lenses in the box A are fixed semi-lenses, while the other pair of lenses are revolubly mounted semi-lenses so that they can be used for either double or single pictures.



July 9, 1907.

859,215. MOUNT FOR CONDENSING-LENSES FOR OPTICAL LANTERNS. Gaston Guilbert, Paris, France.

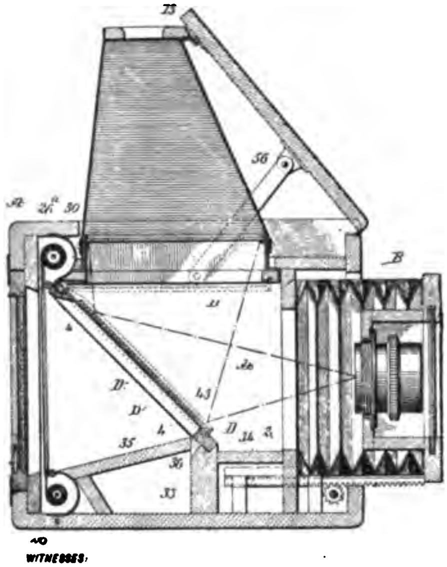
Consists of two metallic rings telescopically fitting within each other, the inner one provided with a pin on its exterior fitting in a bayonet-shaped joint groove in the outer ring, each ring having outwardly extended T-shaped spring clamps for sliding over the edges of each lens and hold the same. The lens is easily removed by springing out the clamp with the fingers and liberal air space is provided between the clamps

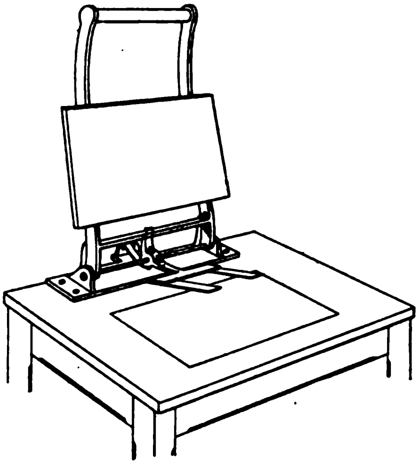


to keep the condenser glass from becoming overheated.

859,655. CAMERA. E. L. Hall, New York.

A hand camera of the reflex type, having a lens compartment in the front, with bellows arrangement for easily focusing with the usual rack and pinion, and an inclined mirror hinged in a special way and supported underneath by a frame, also above the mirror is a second frame. Both frames have annular grooves which overlap the edge of the mirror frame and prevent the leakage of light past the mirror glass into the chamber below. The frames carry the mirror in its upward movement just prior to the exposure, allowing the lens image to strike the plate. The viewing hood is attached to the cover and is folded away in the compartment above the mirror when the cover is closed. There is also a simple, ingenious device for releasing the shutter and regulating the tension of the actuating spring.





July 16, 1907.

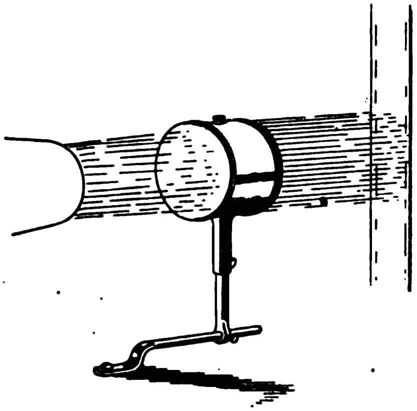
860,127. PHOTOGRAPHIC PRINTING MACHINE. S. Colfax, South Bend, Ind.

It consists of a gripping device to hold the sensitized paper against the negative just prior to the descent of the platen attached to the handle. As the handle is raised after an exposure the gripping device is automatically raised, allowing the exposed sheet to be removed.

July 23, 1907.

861,169. SAFETY APPLIANCE FOR MOVING-PICTURE APPARATUS. S. F. Elkins and H. Hunter, Ironton, Ohio.

A cylindrical cell having glass ends and an opening in the top for filling the cell with water or other suitable fluid is clamped in a ring, supported by an adjustable, vertical, hol-

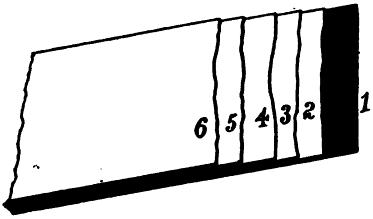


low rod, upon a standard secured to the baseboard of the lantern. The device is inserted between the film ribbon in front and the projecting lens in the rear or vice versa, and absorbs the heat rays of light before they pass through the picture film, thereby preventing the accidental burning of the same.

July 30, 1907.

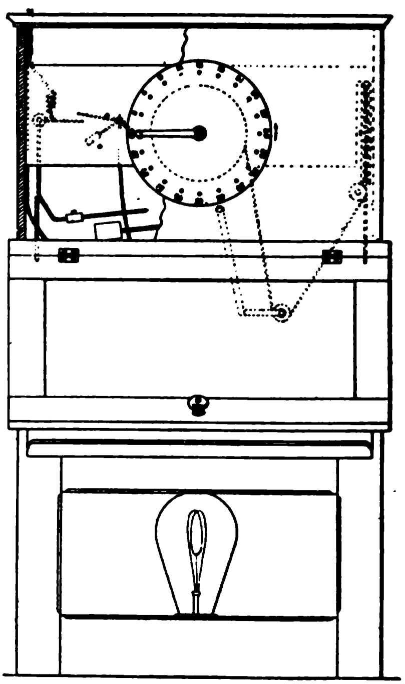
861,472. PHOTOGRAPHIC FILM. G Macaire, Rickmansworth, England.

A composite film, suitable for stripping from a support and non-inflammable. 1 is black paper backing made from pure rag pulp. This coated with 2, a double film of barium sulphate mixed with gelatin, rendered insoluble by chrome alum. After drying, No. 3, an impermeable coating, is applied, consisting of rubber, wax, gum, resin dissolved in benzin or other solvent and allowed to evaporate. Then a coating, No. 4, of collodion is put over it; further a coating (No. 5) of gelatin still alternated with a coating of collodion, and so on until the regular basic thickness is obtained. Lastly, No. 6, either a gelatin or collodion sensitized emulsion, is flowed over the film; then it is ready for use in the camera. In each case the foundation gelatin film is rendered insoluble in water by the addition of formalin. After exposure the film is stripped from the paper support and developed and fixed in the usual way. It is finally passed through a solution of glycerine, 5 per cent.; formalin, 5 per cent., water and alcohol, and hung up to dry on the original paper backing. A clear film picture can be made by the process.



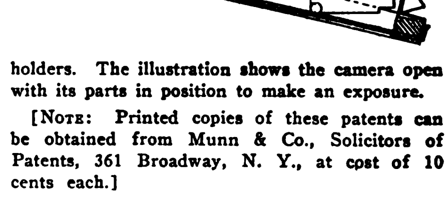
861,602. PHOTOGRAPHIC PRINTING APPARATUS. H. H. McIntire, South Bend, Ind.

The apparatus comprises a platen under which is placed the negative and sensitive paper, located over an electric light, and a clock mechanism, the propelling spring of which is wound up by the opening of the platen. In connection with the clock mechanism is a stop adjusted to allow the clock to operate for prearranged periods of time. The indicator on the front is rotated to whatever exposure is best for the negative used. If it is desired for 30 seconds, then it is rotated to the left of the figure 30 on the dial. A cover is then raised which releases the actuating mechanism. This first switches on the electric light and automatically cuts it off at the end of the 30-second period. Exposures on the same negative may thus be repeated with certainty.



861,606. BOOK CAMERA. J. A. Pantasso, Geneva, Switzerland.

The camera is composed of two hinged portions which swing apart and close. The lens is located at the apex end. The plate magazine is in the opposite end and is manipulated in such a way, after an exposure is made, that the exposed plate will be changed and moved to the rear of the dozen of plates composing the magazine, by means of a simple mechanism for this purpose, and avoiding the use of separate plate holders. The illustration shows the camera open with its parts in position to make an exposure.



[Note: Printed copies of these patents can be obtained from Munn & Co., Solicitors of Patents, 361 Broadway, N. Y., at cost of 10 cents each.]

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Camera and Dark Room, Established 1898
Photo Beacon, Established 1889

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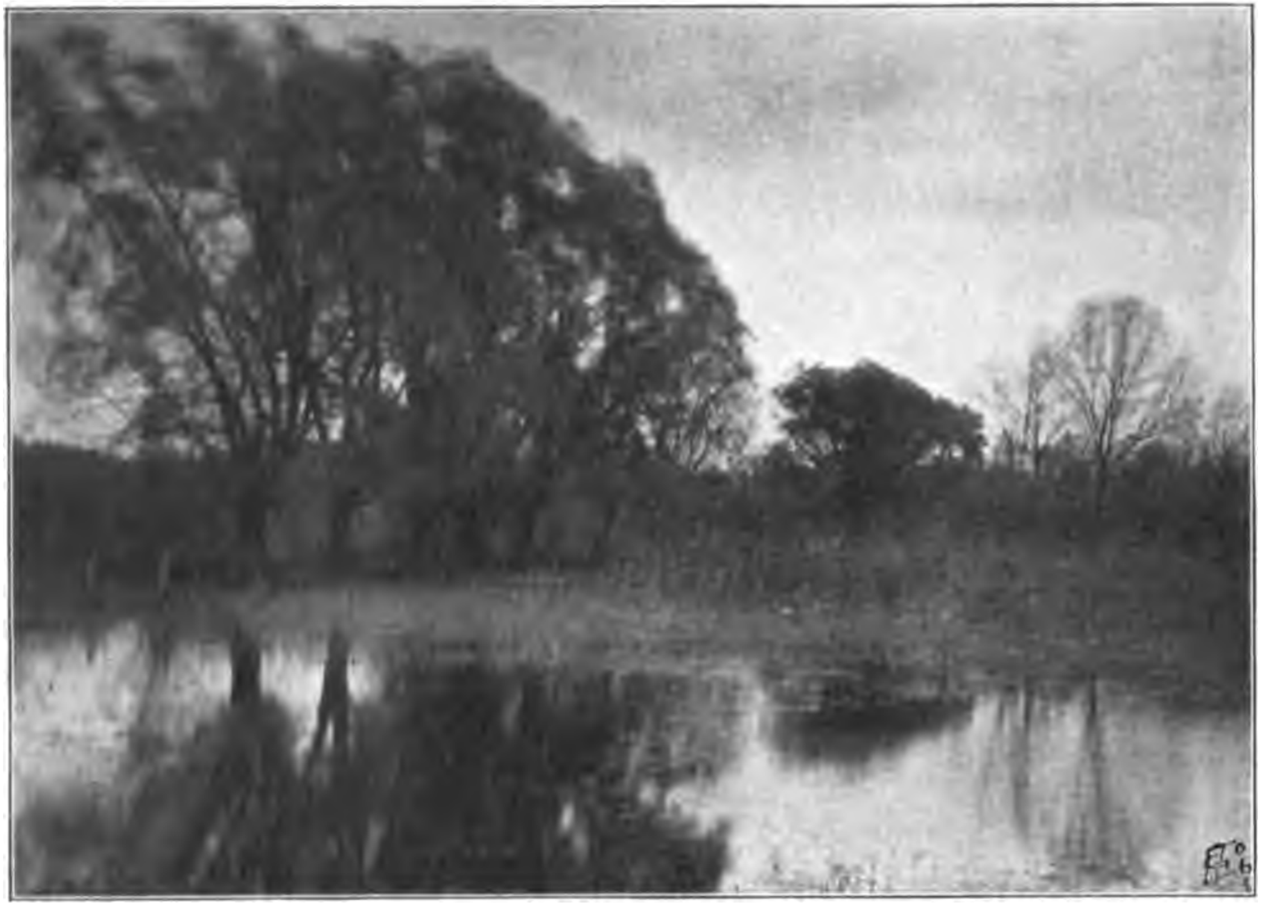

ABENDSTIMMUNG **G. C. ELMBERGER**

Prize, Pinhole Competition

AMERICAN PHOTOGRAPHY

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American Amateur Photographer, Established 1889
Camera and Dark Room, Established 1898
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VOL. I. OCTOBER, 1907 No. 4

GUM-BICHROMATE.

BY F. DUNDAS TODD.

Very diverse are the ideas and the ways of amateur photographers. I will not say that they are past finding out, but each one being an individual has a particular desire to be gratified and it is but right that each should get what he wants. Some know exactly what they want, the multitude have but a vague idea. It is a real pleasure to deal with the former, it is often a problem to handle the latter.

One of the clear headed kind came into my office somewhere about the middle of January. Seating himself, he remarked: "I am as fond of photography as ever, but conditions are such that I must be economical with my side expenses during the next few months, so I want you to tell me how I can get the most fun out of my hobby at the least possible expense." I wanted to know just how much money he could afford to spend and he informed me that $5.00 would be about the limit for six months to come. I knew he had a large batch of all kinds of negatives on hand, so I naturally turned to the problem of printing.

There is one photographic printing process, a really fine process, that will give more fun for a penny than any other I know of. I therefore whispered to him very gently that he had better experiment with gum-bichromate. His vehement remarks were in strong contrast to my whispered suggestion and it was because I felt what the nature of his answer would be that I so gently made my recommendation. I need not enter into details regarding what he said, but once the explosion was over I reminded him that he wanted six months' fun for $5.00, and I was pointing out to him how he could secure it. I showed him a few prints and explained the simplicity of the process in theory, but that he would have all the fun he wanted in striving to get perfect prints from any one negative. After a little consideration he decided to accept my suggestions and within a week he was hitting the trail at a mighty lively pace.

There are possibly a great many of my readers who are wondering what they can do in photography that will be interesting to them, and to such I would recommend that they make a serious effort to master this alluring and at the same time tricky photographic printing process. It is at once the easiest and most difficult of all those that have any pretension to pictorial qualities, but it is this very contrariness that gives zest to the sport. In my own early efforts I began with a recognized formula and happened to choose for the first exposure a negative that was admirably adapted for this kind of print, and the result was a rather good result. I was so well pleased that I at once branched out with other variations that suggested themselves to me, with the result that for the next three weeks I could not get a decent print. Then having sown my wild oats, so to speak, I quit fooling around and settled down to serious business.

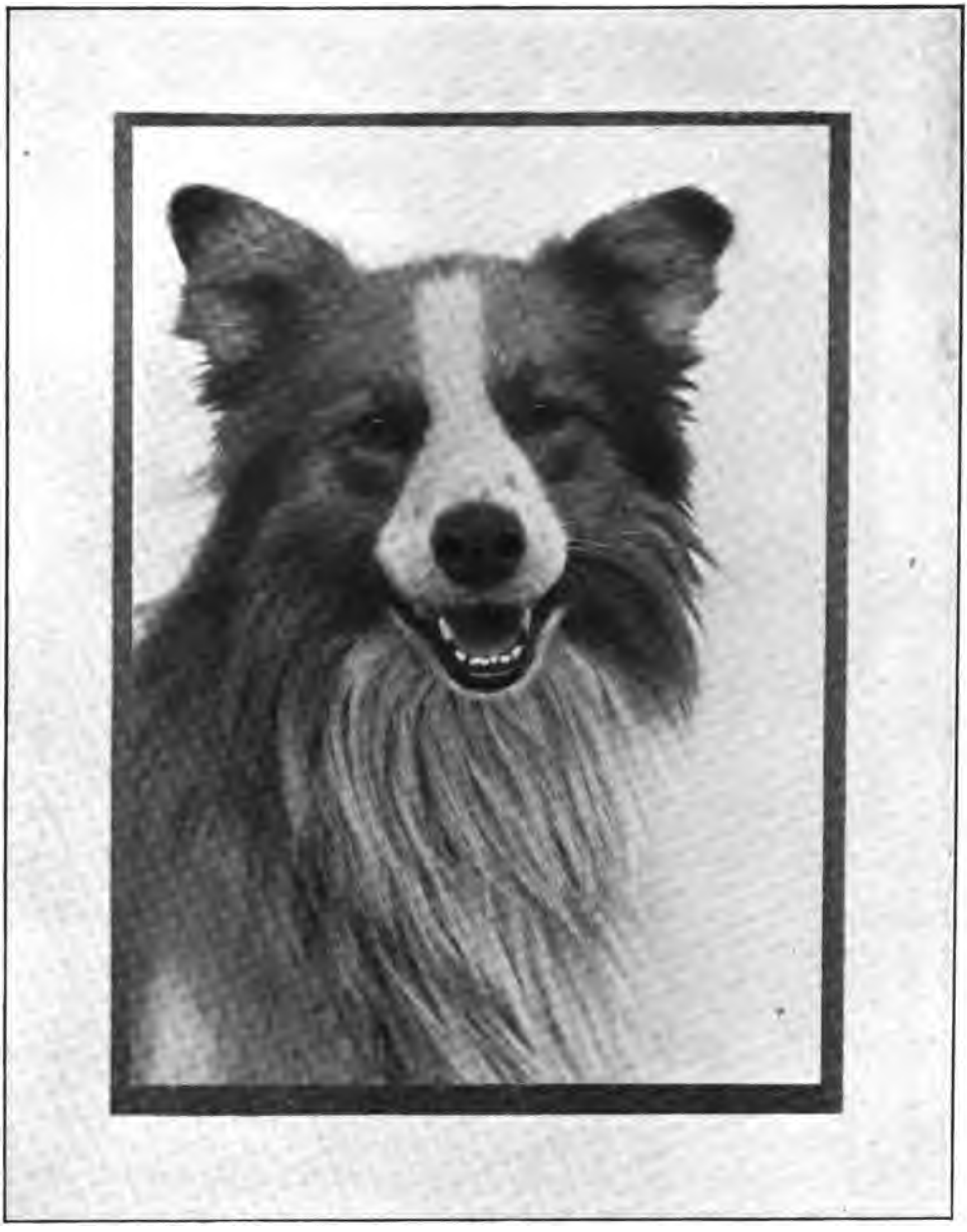
First, as to expense. My original outlay consisted of:

1 bottle of mucilage	20c.
1 package of lamp black	5c.
4 ounces of sodium bichromate	25c.
One sheet of paper	2c.
One brush, about one inch wide	15c.
One palette knife, 5 inches long	35c.

With tacks for drawing pins fasten a suitable size of the paper, say 5 x 7, to a piece of board and then prepare the sensitizing solution. This is done by measuring out sixty minims of the mucilage and pouring it into the center of a clean sheet of glass. Weigh out very carefully two grains of lamp black and add to the mucilage pool. Then with a palette knife proceed to mix very thoroughly and grind the lamp black into as fine particles as possible by a sideward motion of the palette knife. Three or four minutes at least ought to be given to this mixing and grinding process. Now add sixty minims of water and fifteen of the bichromate solution, mixing thoroughly as before.

Apply the mixture to the paper with the brush, which, by the way, should be fairly stiff, and do not be afraid to rub pretty firmly and in any direction until the paper has a fairly even tint all over it. Right here is where the average beginner makes his biggest mistake. In his mind's eye he has a picture of the deepest black in the shadows of an ordinary print and he endeavors to get a very deep black coating on the paper, forgetting that light and shade is after all a matter of contrast and that therefore when the surface of the paper is stained one has no standard by which to judge the intensity. It is quite educative at this stage to place a small piece of the uncoated paper alongside of the coated and see how dark the latter now looks by contrast. Once sufficient has been applied, arises the problem of getting the coatings even. This is done by stroking with the brush from left to right and then downwards. With such a brush as I have been describing streaks are inevitable, but really when the print is finished it is sometimes difficult so say where they have been, so the beginner need not worry about them at this stage. The coating finished, set the paper aside to dry. In the winter days at night I simply lay the board, paper side in, against a wall of the room; and if I happen to coat it in the basement I lean it against the furnace. Either way the paper will dry in a very little while. I need scarcely say that if the coating be done in the day time (and all the mixing and coating can be done by ordinary daylight, as the bichromate is not sensitive until dry), the actual drying must be done in the dark, but an ordinary closet is good enough for this.

Sodium bichromate is recommended because it prints very much faster than does potassium or ammonium bichromate.



DUKE First Prize, Animals **CHAS. I. GRINER**

Gum-bichromate must be classified among short scale processes. It is admirably suited for a negative that has little contrast and is at the same time full of gradation. It will not make even a poor print of a very contrasty subject, such as a brilliantly lit Summer landscape. Not only is it impossible to get a fine print from a vigorous negative, but I may add that it takes a really fine negative of the soft type to get a fine result. In my opinion the man who can offhand make a first class gum-bichromate negative may be defined as a perfect technician. The beginner with this process will have considerable searching of heart as well as negatives when he becomes thoroughly interested.

The time of printing is fairly short. In direct sunshine at this season of the year with the formula given above from one to three minutes will be sufficient exposure if the negative be of medium density. The print cannot be examined during the process of printing, as the image is practically invisible, so one must go entirely by the time. It is developed by immersion in cold water, face down, the time necessary being about an hour.

The theory of the process is this. The bichromate, under the action of light, renders insoluble such substances as gelatine and gum. These, however, are practically invisible and so we must add a pigment if we desire a visible image. On immersion in the water such of the gum as has not been effected by light very soon dissolves and falls away from the paper, thus leaving the parts acted upon which form the picture. Ordinarily it takes about an hour for development to be complete and it is advisable to change the water at least once to get rid of the yellowish stain. Once the print is finished it may be hung up or set aside to dry.

Underexposure or insufficient lamp black will give too weak an image, while overexposure will prevent the appearance of pure whites.

There is great choice in the papers that may be used. For small prints such a rough surface as one finds in Whatman papers is not recommended, as all detail is lost in the shadows. It is when the beginner begins to experiment with other brands of paper that he gets into trouble, because some of them will absorb the mixture into the pores and much of it cannot be dissolved out, so that an even stain will be found everywhere. On the other hand many papers are so smooth that the gum cannot attach itself and so everything peels off during development. Before any paper is tried under a negative it should first of all be tested by brushing some of the sensitized mixture on it, and after drying in the dark the paper should be laid with the sensitized side down in cold water. At the end of one hour the paper should be perfectly white. If it is not it should be considered worthless for bichromate printing. A test under the negative will show whether the image will adhere to the surface or not.

Once the above formula can be handled with fair certainty excursions may be made with other colors, and here is where part of the fun comes in. Paint stores usually keep a great variety of colors in powder form and a few nickels invested in samples will provide enough material to last a lifetime. These powders are not so fine as one gets in the water color pans and grinding must therefore be more thorough. For such work I recommend the addition to the above outfit of a ground glass slab five inches

PIGS Honorable Mention SAMUEL F. FROME

square which cost twenty cents, and a glass muller of 1¼-inch diameter which cost eighteen cents. The mixture is placed on the slab and ground with the muller until all grittiness has disappeared. The quantities to be used of each color must be found by actual experiment, but ordinarily they average one or two grains to each thirty minims of mucilage.

So far I have mentioned only such articles as are really essential, but after the beginner is working with fair certainty he will probably desire to get a smoother coating than is possible with a cheap brush. To apply the mixture he should get a two-inch bristle brush set in rubber, which will cost about 50 cents, and a three-inch badger softener, which will cost $1.25.

From Bradner, Smith & Co., paper manufacturers, Chicago, I procured for 50 cents enough paper to make hundreds of prints. The brand is known as "Kid Finish" and may be had in a great variety of colors and weights. For a beginner I would recommend the Marguerite, Gray and Gordon Gray colors. It might be wise to ask for a variety of weights in placing the order.

One of my friends has spent several years experimenting with gum-bichromate and he says that he finds pure gum arabic is not by any means the best medium to use, but that gum mucilage, so called, is very much better, as it contains considerable glue. Out of much experiment he has devised the following formula, and as he is a famous gum worker it certainly deserves consideration:

Four cz. of common glue; 4 oz. of gum arabic solution; 2 oz. of Le Page's glue; 60 grains of sugar; 1 dram of carbolic acid.

Soak glue in sufficient cold water to cover it until it is thoroughly swelled, then pour off the water and melt the glue in a water bath. An ordinary jelly pot set in a cooking pot will do very well. Now add the gum solution to the pot containing the glue. Then add the Le Page's glue, then the sugar. Last of all add the carbolic acid, which is a preservative. By the addition of water bring the total bulk up to one quart. This is an excellent stock solution which will keep indefinitely. For use take a spoonful and put it into a hot saucer and melt it, then add sufficient of a saturated solution of sodium bichromate. For contrasty negatives 15 drops is recommended, but for soft negatives use from 3 to 5 drops. Of course the desired color must be added.

CLEANING OFF THE GELATINE FROM OLD PLATES.

By Herman Frank Swartz, M. Sc.

The lantern slide worker, all who make transparencies, and often the general photographer, need with more or less frequency to remove the gelatin film from spoiled slides or plates. For the majority of such the writer can save a great deal more time that it will require to read what he is writing.

In making lantern slides it is often apparent by the time development is completed that the slide in hand will have to be discarded as unsatisfactory. As bare cover glasses cost nearly half as much as the slides, of course the thing is to remove the gelatine. To that end, *do not fix* the image. The action of the acid fixing bath is in part to tan the gelatine and thereby render it difficult of solution in warm water. The unfixed slide can be cleansed off in a moment in water not hotter than is comfortable to the hand, whereas the tanned slide is much less willing.

If we have on hand old plates, long desiccated, or those whose gelatine has been rendered difficult of solution by any of the modern hardening processes, something more persuasive than warm water is indicated.

An examination of the various manuals of dark room practice in the hands of most photographers shows a general recommendation of the process of soaking in hot water rendered more or less vigorously alkaline by the use of anything ranging from sodium carbonate to kitchen lye. The writer has fussed with that sort of uncomfortable stuff for many an hour, discovering that, even after prolonged soaking in the carbonate, still additional mechanical persuasion was needed to clean off a well hardened film, and the excessively hot water is a doubtful comfort to the hands. If, furthermore, the lye is employed the gelatine is more perfectly destroyed and *so is the glass.* Every chemist knows that glass is particularly soluble in strong alkalies, and every slide maker ought to know it. This is the

THE CAT J. PHIL. MAXEY
Honorable Mention

reason why covers secured by this process generally look somewhat dulled. The use of an alkali is only valuable when the gelatine has not been tanned, and in that case it is really not necessary.

The method about to be commended is not new but simply ignored. It therefore needs emphasis. The glasses to be cleansed are put in a tray and just covered with water. Add then a quantity of crude hydrochloric acid equal to about one-fourth of the water used. Let the plates thus immersed soak for a period easily observed by experiment and depending upon the strength of solution employed. After sufficient soaking the gelatine can be washed off in cold water as though it were a thin stratum of clay. The glass is left beautifully clean, free from all remains of the film or grease and not in the least damaged by the reagent. It is needless to say that the dilute acid should be poured off and the plates rinsed at once in the tray before taking them into the hands. A number of plates can be cleaned in the same tray, at the same time, by putting them into the acid singly and waiting a second for them to take up a little of the solution. They will then not stick together, as is so often the way when soaked in a soda solution. The acid bath is also cheaper than the soda solution, commercial acid costing only about eight cents per pound. There is also no bother in making up a solution, waiting for anything to dissolve. The writer has cleaned many hundreds of glasses by both methods and knows whereof he speaks.

ANIMAL PHOTOGRAPHY.

FRANK ROY FRAPRIE.

One of the subjects for a photographic competition which is sure to bring the editor an unusual number of entries is animal photography. Our present contest is no exception. A very large number of pictures were sent in, of varying degrees of excellence, and from these we have reproduced several which have been awarded prizes or honorable mention. Others of merit were not suitable for reproduction for one reason or another; one of the best, an excellent print representing a flock of sheep, had been printed in carbon and transferred to an improperly prepared support, with the result that it had parted company with its backing and hung in rags from it. Blue or green prints are rarely adapted to half-tone reproduction, nor are sepia prints on yellow paper. In both cases the finer details suffer greatly in photographing and etching. For reproduction we prefer good toned silver prints or black and white prints, platinum, bromide or developing paper. But this is a digression; let us return to our animals.

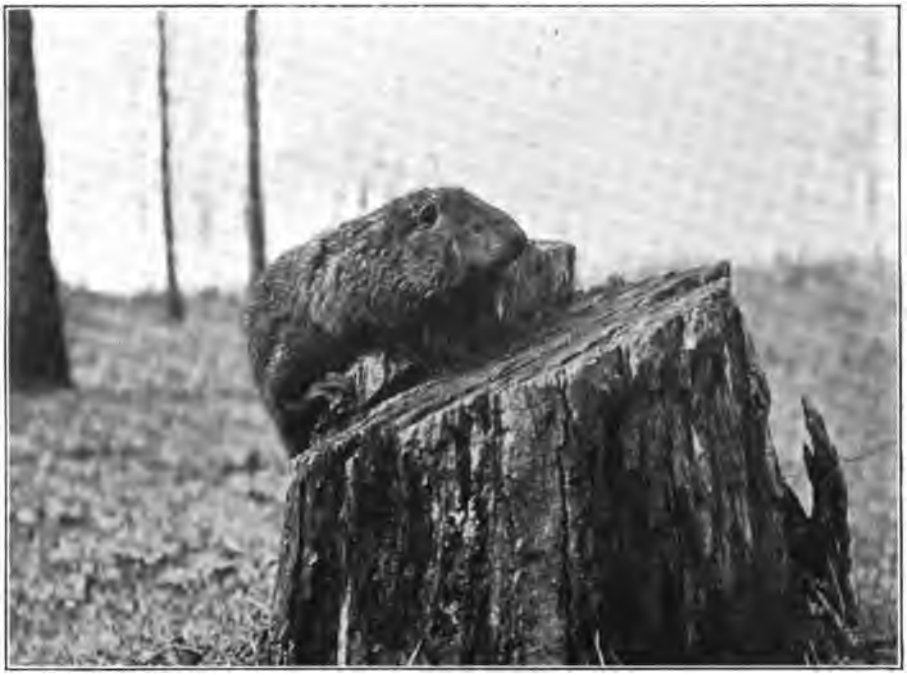
It is not to be wondered at that so many of us possess good negatives of domestic pets; these faithful creatures are as much a part of the family as the baby, and almost as much photographed. The photographs are much more likely to be successful, for a well-trained dog can easily be made to hold a position, and a cat is loath to move when comfortably settled, while a baby—but he who has tried to photograph one needs no description, and words cannot convey the truth to one who has not made the attempt.

Animals, aside from household pets and caged beasts in some city parks, are perhaps not particularly easy to find in the city, but in the country they are always at hand. The cow, the horse, the sheep, and even the plebeian pig, furnish good subjects for many a camera. The barnyard fowls, less often photographed, should offer many attractive pictures. For those who have the love of nature and patience enough, wild animal photography offers a fascinating field. So that, all things considered, it is not strange that animal photographs are among the prints of every photographer.

To consider our reproductions: First among them, as the award given it demands, let us look at Mr. Griner's "Duke." The animal is a beautiful specimen of his race; the pleasant countenance is full of intelligence. The work is excellently done and the print is well worthy of the award. The only fault we can find is with the placing on the plate, leaving too much bare white paper down the right side.

"The Face in the Window" is a humorous title to an interesting print of great technical merit. Almost the full range of tones possible to photography is here portrayed, from the intense blackness of a dark interior, the only absolutely black background in nature, to white in full sunlight. Both are properly shown, yet full detail in both lights and shadows is shown in the print, a little being lost in reproduction.

"The Cat" is another print of great technical merit. The prominence of the wire netting is unfortunate, but the soft and silky fur of the animal is rendered with wonderful fidelity in the print. The tense curiosity of the



ON THE STUMP — Honorable Mention — STANLEY MYTHALER

caged cat is well caught. Bars are usually very objectionable in menagerie pictures, but here they seem to intensify the sullen ferocity of the beast.

Of Mr. Thomson's "White Horses" one may say that it is an extremely good rendering of a hackneyed subject, taken with a lens of good focal length. We should have preferred to have a little more foreground, but after all the interest is in the contrasted poses of the tired heads.

"The Lowing Herd" is one of those prints which one hesitates to classify. Here it is presumably animals in a landscape, but it is a little questionable whether it could strictly be said that the picture is essentially one of animals. It is good, however, and we have let it into the class. A pleasing pastoral scene of good academic arrangement.

Mrs. Foster's "Polar Bear" is excellent in every respect. The unattractive background is unavoidable, but the animal is well rendered and the composition good.

Mr. Frome depicts "Pigs," well cared for and pleasant to the eye, in a most satisfactory manner. A typical farm scene well rendered.

Mr. Mythaler's little rodent, if not artistic, is a good and characteristic picture. The verticals in the background should be removed, especially that nearest the stump, which would almost appear to be an exaggerated and untruthful tail.

An interesting picture of a fast vanishing animal is Mr. Kiedaisch's "Bison," a good reproduction of an excellent specimen. A picture well worthy of preservation as a record.

THE PHOTO SECESSION IN AMERICA.

By Maude S. G. Oliver.

The following article from the September number of the *International Studio* seems to be a brief and correct account of the history of the Secession movement and a sane, if rather one-sided, appreciation of the work of the members of that body. We reproduce the article, merely leaving out the direct references to the fifteen photographs reproduced in the *Studio*:

It is now over nineteen years since the initial step was taken toward the uplifting of simple photography in America to the dignity of photographic art, the year 1886 having marked an epoch in the history of the movement. Then it was that the first exhibit aspiring to anything like international importance was held; and, at its close, what became known as the "New York, Philadelphia and Boston Joint Exhibition Series" was established. The institution, which provided for annual displays to be presented successively in each of the three centers, continued with increasingly satisfactory results until the Spring of 1894, when, from the artistic standpoint, a most encouraging collection was shown in New York. It was one which had been able to demonstrate conclusively the existence of talent sufficient to withstand the sharp test of a rigorous jury. For the ensuing four years no outward sign of activity was evidenced, although the true life of the work was gaining in force and, in 1898, culled from the most rigid system of selection, was shown the first of three notable annual salons. Finally, with a desire to put forward all that was best in photographic possibilities, the Photo-Secession was inaugurated on February 17, 1902, the real movement toward the organization having developed in consequence of the three salons already mentioned.

The decisive note, however, was sounded in 1901, when Mr. Stieglitz, who had been keeping together the ends that reached from the various centers of interest, and whose influence both at home and abroad was more extensive than that of anyone else, was requested to give an exhibition of his own work at the Arts Club. Instead of making a "one-man-show" of the affair, Mr Stieglitz, keenly appreciating the welfare of the movement as a whole, very generously proposed to hold a comprehensive exhibit of American works. The idea was to present the varied character in manner of expression of such individual photographers as ranked high in their art. It was to show that a vitality, which was his own, stamped the work of each, so that it would lead to the recognition of its author unaided by catalogue or signature. Not that the works themselves are necessarily distinguished by reason of the impress of those who bring them forth, yet, through the study of works of this order it is that the individualities of their creators are perceived.

Such an exhibition was held, and, in referring to it as "An Exhibition by the Photo-Secession," Mr. Stieglitz unconsciously offered the most fitting name for the organization that was destined to spring from that initial movement. There was no jury, the work simply having been presented in response to the invitation of Mr. Stieglitz. Later, when the proper conditions arose, the "Photo-Secession" was regularly organized.

The members now composing its fellows are: John G Bullock, William B. Dyer, Frank K. Eugene, Dallet Fuguet, Gertrude Kasebier, John T. Keiley, Robert S. Redfield, Eva Watson-Schutze, Eduard J. Steichen, John Francis Strauss, Clarence H. White, Alvin Langdon Coburn, Mary Devens, W. F. James, William B. Post, Sarah C. Sears, and S. L. Willard. Of these, the first twelve represent the founders of the "Photo-Secession," who serve as the council for the first three years Besides this group, there is a list of over fifty names now composing the associates.

As stated officially, "the aim of the Photo-Secession is loosely to hold together

THE WHITE HORSES — Honorable Mention — JAMES THOMSON

those Americans devoted to pictorial photography in their endeavor to compel its recognition, not as a handmaiden of art, but as a distinctive medium of individual expression." That this creed has proved its claim for respectful recognition has already been demonstrated in consequence of numerous successful exhibitions held both in Europe and America. It is one of the policies of the society that its members never exhibit under its name, except through invitation and as a unit, although, of course, individual members are free to exhibit independently if they choose, in which case, however, their works would not appear with those of the selected group. And the gospel of progress, as an innate conviction with the fraternity, is evidenced in the widening interest that these collections attract among the esthetic circles of true art lovers. Exhibiting thus in a concerted body, the separate works of a collection escape contact with a jury. Indeed, standing for principle as they do, those in authority strive for the reputation of never allowing work that is unworthy to pass their hands, and, from the nature of their peculiar training, the accredited representatives of pictorial photographic art feel that they are able not only to judge more accurately than the painter (unless he is also a photographer and understands photographic quality as a vital character of the print) concerning examples in their own field, but that they are equally competent in criticising certain elements in the painter's own work.

The important principle appears to be that a photograph never should partake of the nature of the conventional media, but that effects produced by the latter may be consistently expressed in terms of photography. The law seems to obtain that, just as when one is bereft of certain faculties those remaining become more acute.

so refinement and directness of execution, when limited in range of media, become more subtle, more beautiful. And since the best operator in any craft is acknowledged to be the best judge of excellence in the productions of that craft; similarly, the most artistic operator in the photographic craft should be recognized as the most efficient judge of his own specialities in any picture.

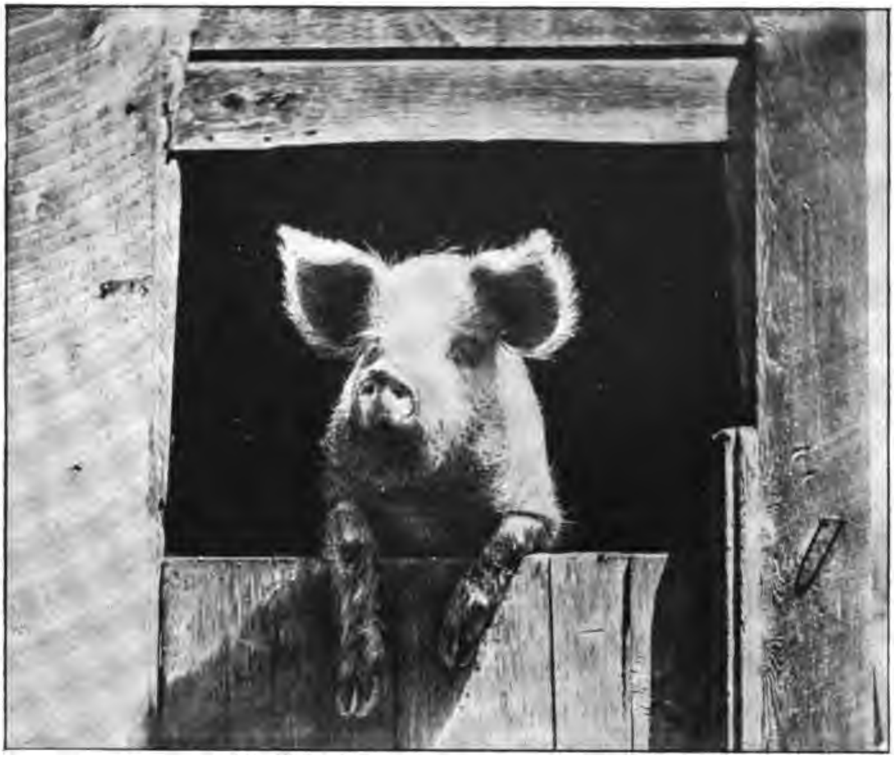
Again, the rarity of a good print elevates its production from the realm of a commercial mediocrity to the realm of conscious, living art. And, just as truly is it in the mind of the inspirational photographer one day to produce that elusive something of his fairest dreams, which to him stands for his masterpiece, as ever it was in the mind of a Da Vinci or an Angelo. The dust heaps of the centuries are filled with the abortive efforts of those who have failed in expressing the universal ideal. And the final estimate of any significant period in the world's progress, whether in the field intellectual or esthetic, the real evidence of lasting good, will be embodied in such works as have stood the test of time. Yet this idea of the important feature being the thought reproduced in the work is plainly to be observed in the attainments of the Photo-Secession, although still in its infancy.

In analyzing examples of the society in general, one is forced to recognize the reflections of the personalities who conceived them. The work of Alfred Stieglitz, for example, indicates in no small measure the organizing, persevering and determined spirit of the man. Mr. Stieglitz, who, besides being an artistic photographer, is also the editor of *Camera Work*, evinces in his photo essays that fine, analytical consideration of a subject which would naturally characterize one who was capable not only of producing a picture, but who could criticise with equal ability. Since he identified himself with art photography when it was quite in its inception, his work in this field has been practically contemporaneous with the movement. Pre-eminently a technician, this artist displays a refinement and seriousness of intention that indicate a poetic temperament. Mr. Stieglitz's well-known subject, "The Hand of Man," strikingly illustrates this earnestness of purpose being carried out to such perfection of finish as to give the sheet, while still holding to the profound message of the story, the softness of a mystic atmosphere.

Joseph T. Keiley, a co-worker in many valuable experiments with Mr. Stieglitz, and, with Messrs. Strauss and Fuguet, associate editor on the staff of *Camera Work* is an artist with a temperament inclined toward mysticism. He is one who works under the spell of inspiration, rarely producing more than one finished print from the same negative, and, because he is conscientious in niceties of execution, that print naturally is a jewel of its kind. The suppression of detail is one of Mr. Keiley's technical faculties, and this in itself gives largeness and directness of intention to his pictures.

John Francis Strauss, another leader in the New York circle, although of recent years his work has been more closely identified with the literary side of his art, is still a clever craftsman who displays a refreshing sense of always working directly for his results, and, however varied his choice of subjects, he understands perfectly how to enter at once fully into their spirit.

In connection with the New York fellowship mention should be enthusiastic regarding that young *virtuoso* of the printing frame, Mr. Eduard J. Steichen. Being a painter of merit, Mr. Steichen is able to present a remarkably suave manner of brushwork, a technique that is fluid and luminous, and which at the same time contains depths of velvety richness as well as lights of gem-like lustre. Equally fortunate, whether dealing with studies of the human form or landscape, he is perhaps best known as a portraitist. In this class of subjects he is almost startling in his ability to bring not only the bald facts of a likeness, but something of the archetypal man, his aspirations and his life, for whom the likeness stands. This is especially true of his descriptions of the three great men, Lenbach, G. F. Watts and Rodin



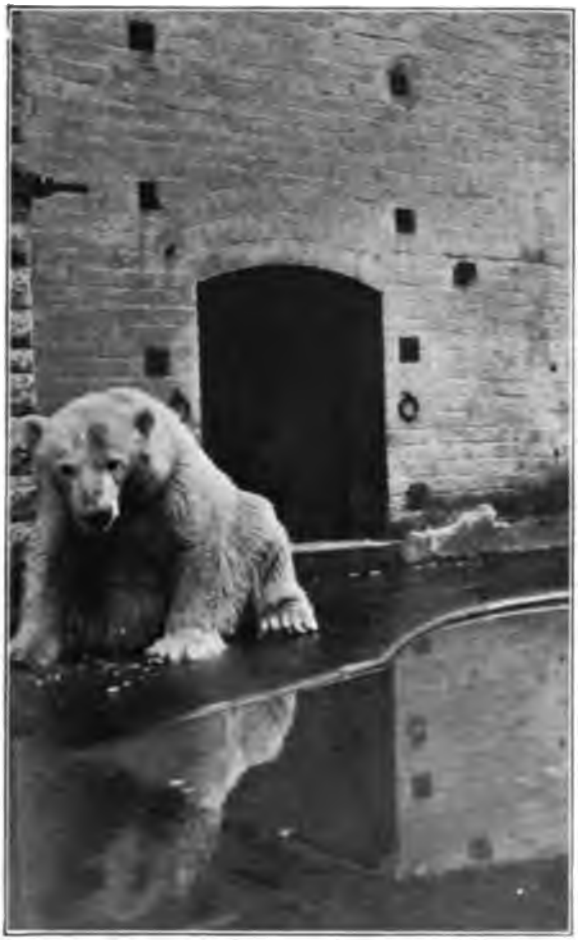
THE FACE IN THE WINDOW J. M. REEN
Second Prize, Animals

Mr. Edmond Stirling was one of those most stimulated by the salon movement, and his work rapidly developed with rare refinement a sweet quaintness of spirit and an even quality of execution, very low in tone.

Mr. Alvin L. Coburn's work has been noticed on more than one occasion of late, and there is consequently no need to say more about it here. During the past year or two he has made Europe the field of his labors.

Mr. John J. Bullock, of Philadelphia, is an artist who shows a refreshing candor in his approach to nature. His reverence for her is of a wholesome, manly sort, unaffected but strong. His taste in arrangement is almost infallible, and, together with a studious consideration of brush development, it produces a result that is serious and refined.

Mr. W. B. Dyer, a Chicago man, likes to conceive little lyrics, relating to various aspects of human life, which he arranges in logical series. One of his most appealing achievements is that entitled "The Wandering Brush." This is a gum print which the artist confesses might have been accidental in its results, for, although he worked from the beginning with a positive effect in view, he has never since been able to reproduce the picture. But such works do not need to be reproduced; one is sufficient as a type, and that is enough to teach its message. The treatise in question tells of the growing inspiration of a painter from the time when he first sits down to his canvas with only chaotic ideas of a few fine sweeping lines, until the time when a form of beauty has begun to emerge from the "wandering" strokes of his brush.



YOUNG POLAR BEAR Mrs. Alice F. Foster

Honorable Mention

S. L. Willard, likewise a Chicagoan, and Frederick K. Lawrence as well, are men whose names are familiarly known in exhibitions on both sides of the Atlantic. Mr. Willard delights us in tender, imaginative renditions of rural landscape, and in a subtle mystery of tones as applied to his figure interpretations.

Mr. Lawrence appreciates keenly the witchery of rustic nature. What the impressionists have sought to express with their prismic colors, he feels intuitively through his photographic lens, only he sees the dance of sunbeams wreathing itself into elfin fancies, examples of this mystic touch being exemplified in his performances.

William F. James, another name in the Chicago list, is also a very sincere worker, a man who is quite independent even of his brother Secessionists, deriving his greatest pleasure from the opportunity of setting down his impressions in the language of photography. With him, the feeling seems to be no compromise between him and the direct accomplishment of his work, which naturally is straightforward, devoid of embellishments and essentially truthful.

Clarence H. White, of Newark, Ohio, is located where he can receive new inspiration contantly from the freedom of the "open." More than one of Mr. White's most distinguished accomplishments have been composed entirely with outdoor settings. In these, glimpses of quaint, conventional gardens vie with the homely effects of orchard landscapes. With such subjects, Mr. White has been especially successful in the line of illustration. Simple and direct in all his work, Mr. White portrays a peculiar grace in his figure treatments.

T. M. Edmiston, who is also a Newark man, is an earnest, convincing artist—one to whom sentiment is a reality and to whom poetry is a mission.

Of the women artists in the field, Miss Gertrude Käsebier, who belongs to the New York group, is one of the most accomplished laborers. An item of personal interest in her history is that she enjoys the distinction of having been the first American painter to have entered the ranks of the professional photographers, and while in no way suggesting the sense of imitation, her keen, unerring perception, together with her intelligent treatments, reflect to a large degree in her photographic art her experiences as a painter.

Mrs. Eva Watson-Schütze has received excellent training in the academic branches, having devoted some six years to the departments of drawing and modeling at the Pennsylvania Academy. Mrs. Watson-Schütze is a Chicago woman, who, while she identifies herself with Western ideas, still keeps in touch with the East, her former home; and, above all, remains true to her own convictions. Indeed, no artist of distinction, no period or fad, nor the influence of any medium, aside from photography, has the least hold upon her. Beyond this, she is in love with her work, so that her marked originality is always impressed with a rare tenderness of feeling. Wherever is to be found her rather naive seal, consisting of a conventionalized dragon-fly enclosed in a loosely sketched rectangle, one is sure to observe an interpretation of lofty thought, intellectual without coldness, emotional without unrest.

Miss Emma Spencer, of the Newark fraternity, while not at all conservative in her restraint, is so thoroughly unassuming in her methods, that a quiet little message from her printing frame is usually appealing.

Although far from complete, these few random sketches, dealing with the attainments of individuals who belong to the new school of photography in America, are at least representative. Standing as the symbol of a scientific age, this wondrous child of the nineteenth century, Photography, is, in the hands of a master, as plastic as clay, as mobile as the brush, and is justly ranked on an equal footing with her sister arts. Add the achievements of the camera to the already known achievements of the brush—the unerring nicety of light itself to the imaginative creations of the poet's fancy—and the result is a definitive fixing of the spirit of things heretofore unknown. Science has laid at the feet of Art a helpful offering.

THE LATEST COLOR PROCESS.

The greatest interest is bound to be created in any announcement of the progress made in the method of color photography in which the filters are distributed in the plate itself. Up to now the Lumière "Autochrome" plate has monopolized public attention to such an extent that it is easy for those who have not followed the work of the past few years to associate such one-plate processes exclusively with it. There is, however, to be shortly available a new screen color plate which is a further development of the original Joly linear method, but embodies advances of such importance in this latest of color photographic systems that an account of what has been accomplished appears to be called for. It is scarcely necessary to explain that the Joly process, as it has hitherto been known, consists in the use of a filter of fine ruled bands, alternating red, green and blue, which is placed against the sensitive surface of a panchromatic plate, and exposure made through it. From the color-record negative thus obtained a positive is printed by contact on a transparency plate, which positive transparency, on being bound up in register with a ruled screen, similar to that used when making the exposure, reproduces the color of the original object. It will be within the recollection of many persons that this system, as first worked out by Professor Joly, of Dublin, and afterward by the late Mr. MacDonough in America, proved capable of being easily employed once the screen plates had been produced, but that the regular manufacture of the screens on a large scale proved a task beyond the powers of both the commercial undertakings which were formed to work the process. Moreover, even with a perfect screen, there were certain obstacles in the way of absolute certainty—chiefly the difficulty of securing uniform contact between the screen and the sensitive plate in the camera—which limited the application of the process in practice. It has been left to Mr. John H. Powrie and Miss Florence Warner, of New York, to successfully combine the screen with the plate, to perfect the manufacture of the screens, and to introduce important developments of the process which enormously increase the possibilities of the one-plate linear color screen. In short, to briefly anticipate what we have to describe, the Warner-Powrie process, as it is to be called (1) combines the linear screen with the plate, forming a "screen plate" ready for exposure, at a price which, we are informed, will not be much greater than that of ordinary plates; (2) provides means of duplicating the color results, and (3) permits of a set of full-tone negatives, that is without the linear ruling, being prepared from the single negative, from which set prints on paper by the pinatype or other process can be prepared.

The series of experiments which has now led to a successful issue was commenced by Mr. Powrie ten years ago, the greater part of which time has been taken up in making the experimental success of the first year practicable upon a commercial scale of any required magnitude. It would take too long to describe the chemical and mechanical expedients, chiefly the latter, which have been tried and abandoned; but Mr. Powrie and Miss Warner have together worked out a manufacturing process which they have already proved to have nothing in common with its predecessors, and is, in fact, an original application of du Hauron's principle to commercial industry. Some particulars of the process, in Mr. Powrie's own words, were quoted from the "Process Year-Book for 1905-6" in *The British Journal of Photography* of 1905, p. 1,029; but if the process as it exists to-day were no more than that then outlined it would not merit the description which we are bound to assign to it of a comprehensive system of color photography answering the requirements of both the amateur worker and those who regard color photography as a serious and commercial pursuit.

The basis of the process is a combination of the linear filter and emulsion, which the promoters name the "Florence Heliochromatic Screen Plate." As in the Lumière process, the filter is placed between the glass and the emulsion, but in fine lines. The method of producing this banded filter of the fineness of 1-600th to 1-1,000th of an inch constitutes the first step in advance of the Warner-Powrie process. Joly ruled his screen with a traveling pen; MacDonough did so, too, and also applied the band of color from the ruled edge of a wheel. Mr. Powrie prepares his by printing from a grating an image in bichromated colloid, which is converted into a transparent gelatine relief. This is stained so as to form one series only of the three bands of the filter. A second series is printed after shifting the grating a determinate distance (the width of one line), and a second staining undertaken. The last and completing color is obtained in the same way, and the method, which, from the description, appears more impracticable than others, has been found to be technically right, and to permit of the manufacture of screen glass of finer ruling than the 300 lines per inch which MacDonough failed in ruling on the manufacturing scale. After the application of a panchromatic emulsion the "Florence Heliochromatic Plate" is ready for the production at one exposure of a negative in color, or, if the negative image be reversed, of a direct positive transparency in colors. The above is a very sketchy outline of the system which has been worked out for the continuous production of the screen-plates by cheap and almost automatic means, and without the possibility of uncovered or overlapping bands, but the description suffices to indicate the application of a photographic method to the manufacture.

Thus far we have a process of preparing color transparencies which can be put in the hands of the amateur, and will enable him to produce results with no more difficulty than is involved in making a lantern-slide. But the essential feature of the Warner-Powrie process is that, without in any way altering this preliminary operation, the color negative or positive is available for:

1. Preparing duplicates.
2. Preparing prints on paper.

Both of these developments are possible only with a screen plate with linear ruling, and both are carried out in the simplest manner conceivable by a method, indeed, which is so simple that it is hardly possible to suppose that it was not tried by early experimenters with the ruled filter-plates. It will help an understanding of this method if we first take No. 2 of the appendages mentioned above, and explain how a set of full-tone negatives is obtained from the line negative made in the first instance.

The triple-line screen-negative in colors is placed in a printing frame with its filter side (*i. e.,* the glass) toward a source of light from which parallel light falls upon it. The light passes through a filter which allows only light of one of the three colors of the screen plate to reach the printing frame. In contact with the film side of the plate is laid a sheet of glass (or celluloid or a metal frame) the thickness of which is chosen in relation to the distance of the frame from the light, and also to the angle through which the frame is subsequently turned during part of the exposure. On this glass again in the dark-room is placed a sensitive plate, and the whole set up in readiness for exposure. One-third of the total exposure is given with the plate at right angles to the rays of light, one-third with the frame inclined toward the light to a certain extent, and one-third with the frame inclined away from the light to an equal but opposite degree. A moment's consideration will show that with a correct adjustment of the three factors of light distance, thickness of glass and angle of inclination, the set of bands occupying only one-third of the plate which is obtained at the first exposure, is duplicated on one side of the bands (first printed) on the second exposure being made, and on the other side of the first set of bands on the third exposure being made; with the result that a full-tone positive is obtained, representing the exposure through, let us say, the blue band. A similar series of exposure enables the same to be done in the case of the red and green sensations, with the result that the worker is in possession of a set of positives which he can use as he thinks fit in any process of three-color printing.

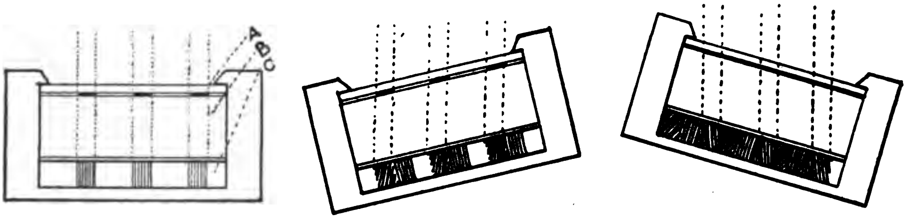


Fig. 1. Fig. 2. Fig. 3.

Showing the printing of a positive copy from the Warner-Powrie negative, A, behind which is placed a sheet of glass, B, and the sensitive screen-plate, C.

The originators of the Warner-Powrie process admit that in this process of abolishing the linear formation a slight aberration is introduced, and is inseparable from the manipulation above described, but the amount of variation is found to be negligible in practical work.

We can now pass to explain what is actually of more importance to the maker of pictures in colors—namely, the printing of the negative color transparencies obtained at one exposure. The method is the same in principle as that just described for three positives, but instead of using three separate plates, one single panchromatic screen plate is used with the linear screen behind the glass, screen side in contact with it, and with its lines crossing those of the color negatives. There is no need to register the two screen plates. As before, the three exposures are given in the perpendicular and the two angled positions, the three stages of the operation being shown in Fig. 1, where A is the color negative, B the plain glass, and C the sensitive screen plate on which the positive is impressed.

Fig. 1 shows the first printing at right angles; Figs. 2 and 3 those duplicating each band on either side of the first; as a result the copy in colors is obtained of the ruling of the second plate only, and without the introduction of black or of white, which takes place if a copy be made from a negative or positive respectively in the ordinary way.

There are other ways in which this triplications of the negative images may be secured. By the use of mirrors (to multiply the light sources) at such distance from the frame and at suitable angles, the same effect is produced at one exposure as is obtained by shifting the position of the frame.

Three sources of light (incandescent, electric or gas lights) will also accomplish the same result; or, by covering the window of the room, leaving three, four or five inches in width and printing by daylight at a sufficient distance from the window, it is practicable to secure the necessary sharpness of the image and to eliminate the lines by juxtaposition.

It will be remembered that in the "Color Supplement" to *The British Journal of Photography* of July 5, Dr. Mees was the first to point out that the printing of a color-screen positive from a negative (or positive) also on a screen-plate cannot be successfully done, for the reason that in the case of printing from a negative the positive copy is diluted with white and the colors all weakened, whilst in the case of making a positive from a positive the reverse occurs, viz., admixture with black, the colors in the copy being greatly degraded. The fact was further confirmed by Dr. J. H. Smith in the "Color Supplement" for August 2, in the case of the "Uto" bleach-out paper, but at the time both these writers were unaware of the method above described which Mr. Powrie employs to get over this drawback. Both have since expressed their admiration of the most simple solution of the problem in the case of Warner-Powrie process. The great transparency of a Warner-Powrie color print on glass is a good reason for assuming that the lantern lecturer will find in it alone of all the one-plate systems available or suggested the means of preparing slides which can be projected by lanterns of ordinary power. The difficulty which under ordinary conditions attends the use of the "Uto" bleach-out paper for the copying of a positive transparency on a "Uto," an "Autochrome," or a Warner-Powrie screen-plate will be understood from Fig. 4, where are represented one or two bands of red in the latter screen-plate. On exposure to light only those strips of the "Uto" paper under the red bands will become red, the adjoining bands of blue and green, which in that part of a transparency representing a red object are opaque, remain black on the "Uto" paper, and consequently the region which

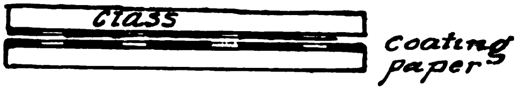


Fig. 4.

Showing how admixture of two-thirds black with one-third pure color takes place in printing from a screen-plate positive on Uto paper.

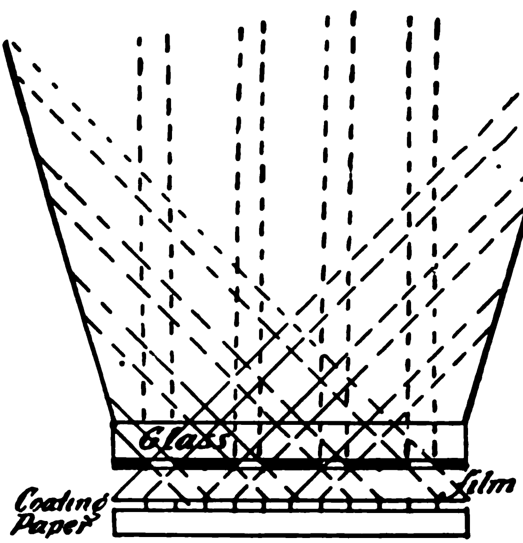


Fig. 5.

Showing how the full color effect is obtained in printing on Uto paper from a Warner-Powrie screen-plate positive by aid of inclined mirrors.

shows the bright red consists of only one-third the brightest red the paper is capable of and of two-thirds black. The difference between a linear plate and a grain plate in this respect is that in the case of the former there is a quick and easy way out of the difficulty, whereas with a grain color-screen it is hard to imagine any way of escape. The method used in the Warner-Powrie process is explained by Fig. 5. A mirror is fixed to each side of the printing frame at such an angle that the rays of the light reflected from them triplicate the action on the paper by bringing into action a band right and left of that impressed on the "Uto" paper by direct light; in other words, the full color possible by the paper is obtained without dilution with black. Fig. 6 is a rough drawing of the attachment actually used. It consists simply of two mirrors (a and b) inclined at an angle of about 110 deg. to the sur-

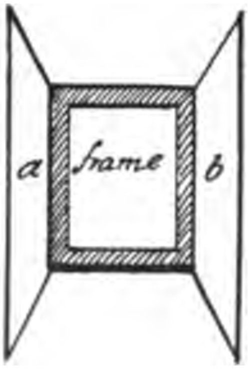


Fig. 6.

Diagramatic view of the printing frame corresponding to Fig. 5: *a* and *b* are mirrors inclined at about 110° to the surface of the positive.

face of the frame. The device, of course, greatly accelerates the printing of the paper, which, as anyone using it knows, is capable of improvement in sensitiveness.

It would be easy to pooh-pooh the Warner-Powrie process if the claims of its promoters were unsubstantiated by results. In fact, the almost sensational character of certain of the methods would justify such a prejudiced frame of mind. But the proof of the pudding being in the eating, it is not possible to dismiss this development of the Florence Heliochromatic Plate lightly. It has been our privilege to examine a large collection of the screen-plates used in the process and a large number of the results. These latter consist of the original screen-plate negatives (in the colors complementary to those of the original), positive transparencies in color printed from them by contact in a printing frame without any registration and having all the colors of the original, and sets of continuous tone color-sensation positives made from the original screen-plate negatives by the process which we have already described. The last, though without color, and though differing in no visible way from an ordinary positive transparency, were, to our thinking, the most triumphant proof of the working quality of the Warner-Powrie process. To see a negative in colors which are dispersed throughout the plate in bands 1-600th of an inch in width to the number of, say 2,000, and side by side a set of three positives representing the separation into three separate colors, the blue, the red and the green in the subject, and all without a single effort to register, was, in our mind, an experience nearer allied to the stories of the days of magic than any other which we can recollect in connection with a "marvel of photography." Yet we handled more than one such set of recent preparations and arranged for the printing of a three-color set by a subtractive process. The positive transparencies by the Warner-Powrie process differ from any we have seen from a screen-plate in their great transparency. They are of so fine a ruling that the effect at about a foot from the eye is a continuous tone. Mr. Powrie, we believe, is right in preferring a linear ruling to any other of the same fineness for its quality of merging into a continuous tone, and though his earlier results at 400 to the inch are hardly coarse enough to attract attention to the structure, those on screen-plates of the finer ruling of 600 to the inch are as fine as can be wanted in prints or transparencies to be examined by the unaided eye. As to the precise color rendering we do not feel compelled to speak at length, since its perfection is a question of the adjustment of the filters to the emulsion. We have been anxious to dwell in this article on the dispersal of the mechanical difficulties in the screen-plate process. Still, the inventors have convinced us of the thoroughly workable character of the method by the exquisite examples they have shown us of a great variety of subjects. Of late their endeavors have been in the direction of the maximum rapidity of emulsion, one specimen of which may be mentioned as an example of what may be expected of the progress. It is a color-screen plate positive of a man jumping over a flower-bed in a garden, and while it could not be claimed that the exposure had been sufficient, the picture is a triumph for an exposure which, as itself shows, must have been at most one-fiftieth of a second.

It should also be mentioned that the process of preparing the screen-plates adopted in the Warner-Powrie process is equally applicable to celluloid film, which, in fact, from its facility of treatment in lengths, is more readily handled than a number of plates. The method of duplication above described is equally applicable to films, and it is possible, although we have no experimental data to warrant the assumption, that the great transparency of the Warner-Powrie positives will permit of the realization of the ambition of not a few inventors, cinematography in colors. Into that, however, there is now no occasion to enter. The process as we have outlined it contains enough to feed the desire to make its more intimate acquaintance. We have not exhausted what there is to say of it, but any further account must be postponed to a forthcoming issue, as must also an article by Dr. Kenneth Mees on the Warner-Powrie method of overcoming the difficulty of duplicating screen-plate negatives and positives.—*British Journal of Photography.*

PRINTING IN BI-GUM.

BY H. M. LEVOY.

Supplementing the article by Mr. Todd elsewhere in this number, the following clear and concise instructions from the pen of H. M. Levoy, one of our valued correspondents, should stimulate others to try printing in "bi-gum."

Briefly the modus operandi is as follows: Purchase from the local druggist an ounce or two of pure gum arabic, which should be in the form of clear white "tears," and, also, a few ounces of bichromate of potassium. Now take (say) a tablespoonful of the gum, grind it to a fine powder, and then dissolve it by constant stirring in cold water until it has the consistency of thick cream. A very little water is required for this purpose. A saturated solution should, meanwhile, have been made of bichromate. That is to say, rather more of the bichromate crystals are put in water than the water will dissolve, perhaps one ounce of bichromate to five ounces of water. All is now ready to coat our paper with the sensitizer, with the exception of the pigment. Until one becomes expert it is better to use one color only, so we supply ourselves with five or ten cents' worth of finely ground lamp-black, easily obtainable from any dealer in artists' supplies, or, for that matter, from the store of a house painter and decorator. Then, after mixing an equal quantity of the dissolved gum with an equal quantity of the bichromate solution we add to it the lamp-black, just about enough to comfortably cover a ten-cent piece, after, perhaps, grinding the pigment with a table-knife, or a piece of glass, to get rid of grit. These should next be vigorously mixed by stirring with a hog's hair brush, which is also used for coating the paper. This coating should be done by artificial light, or very subdued daylight, and is the most difficult part of the operation. One may use any kind of paper, but it is better to have a rather rough surface to work on, such as that afforded by a cartridge paper, or what is known as "Michalet," employed by artists for charcoal drawings. A very smooth paper is very difficult to coat evenly. Having cut the paper to the desired size, an inch or two larger all round than the size of the negative from which we propose to print, it is pinned securely at the corners to a board. Next dip the brush in the sensitive mixture, and with light even strokes, draw it across the paper horizontally until the sheet is covered, crossing the strokes afterwards in the opposite direction. When this is accomplished, it is necessary to go over the surface again with another brush, a broad camel's hair brush answers very well, or what is better still a "badger-hair softener," in order to get as even a surface as possible. The whole secret lies in getting a very thin, even coating, so that the paper may be seen quite easily through the glaze. Having coated the required number of sheets of paper in this manner, they are hung up to dry in the dark, or they may be even taken to the fire and held a few feet away from it until dry. I prefer, however, to allow my paper to dry more gradually, as it is then rather more sensitive. Drying, as a rule, is complete in about an hour. All is then ready for printing, which is carried out in the usual way, by placing the sensitized surface of the paper in contact with the negative in the printing frame. Now to get the best results in gum-printing we require a rather special kind of negative, although this need not prevent experiment with other kinds. The ideal negative should be very thin, having no great contrasts and possessing fine gradation and delicacy. With such a negative printing will be complete by an exposure of about ten minutes in the shade. With a dense negative the time may be extended to an hour in the sun, and even then the results will probably not be good.

For the initial attempt then select a negative as nearly perfect as possible, and print for ten or fifteen minutes in the shade. At the end of that time remove the paper from the frame. You will not be able to tell from its appearance whether it is printed or not, as there will be no visible image—and very gently place the print face downwards in a dish of cold water. In another ten minutes or so lift it up by one corner, and, if the exposure to light was about correct, some of the pigment will have come off, and the picture will gradually develop itself. Return it to the water a little longer, examine it from time to time, and when you find development has proceeded far enough, remove the print from the water and hang it up to dry. The result will be an absolutely permanent positive print in water color, possessing a charm no other printing process affords. In the case of over-printing which, if development does not commence within a reasonable time in cold water, is evident, the print may be immersed in very hot water, or placed face upwards on a sheet of glass and gently brushed under water with a camel's hair brush. If it does not yield to this treatment, it is, of course, beyond redemption. Gum-printing is not very suitable for negatives much under 5 x 7 in size, as it is intended to yield a result broad and sketchy in effect, and consequently much of its charm is lost in a very small print.

Violet tones on blue-prints can be produced by placing print in a warm 5 per cent. solution (23 grs. to oz.) of lead acetate.

The image of a blue-print is made permanent by washing out in water the ferric salts that have been unaffected by light.

NIGHT PHOTOGRAPHY.

ROBERT DYKES.

(Continued from last month.)

Having run through all the "courses" of my "menu" of food for the camera at night, I will now come to the question of apparatus.

No special apparatus is required—night photographs may be taken with the diminutive, five-shilling "Brownie," or the large 15x12 field camera. Any old box with a lens in it that will take fairly sharp pictures by day will also take them by night. Of course, the man with the stand camera has the advantage, he feels more sure of his work, and knows what he is doing, at least what his camera is capable of doing for him. A great deal is to be said for a fixed focus camera, as it saves considerable trouble in focusing, but a full sized finder is necessary, otherwise an undesirable light on the left or right front that should be cut out will, in all probability, be left in. In stand cameras, the best form is a square bellows with an extensive rising front; if a conical bellows be used, see that it has loops for looping up to prevent cutting off any light. If the lens is carried on a panel, which is decidedly preferable, as it enables the front to be removed if necessary, for stopping down after focusing, when one cannot very well see the F. numbers, this panel should be one easily removed, but quite firm when put in place again. It is much easier to remove a panel than to unscrew a lens. A fine ground-glass screen is an absolute necessity in night photography, and a focusing glass cannot be dispensed with. Grease spots are, however, of very little use for focusing, as one never exactly knows where the glass is likely to be applied on the screen. However, this applies to focusing stand cameras, and after all what one really requires in night work, providing one has a camera and lens at all, is a rigid, steady tripod, and the camera perfectly leveled, and last, but not the least, a good stock of patience and confidence in oneself. You need it, especially in crowded places, where the plaintive wail of "Please to take my photy," or other choice remarks are hurled at you. If there is a strong wind blowing it is impossible to do anything, and it is better, if one cannot get a sheltered position, to abandon the attempt. I have walked six or seven miles to get a certain view, and then had to give it up owing to wind. So that even on the quietest of nights the tripod must be well set and free from vibrations. As to leveling, the levels ought to be placed where one can see them easily, no matter at what height they may be, and for that purpose there is nothing to beat Taylor, Taylor & Hobson's single tube levels with the small side slit. I use one at the top of my swing-back for horizontal leveling, and one at the bottom, placed at the side for vertical leveling. No matter how far above my head they may be, I can see the bubble cross the slit. To do this, you must have a light. I myself use wax vestas, a piece of candle, or, if cycling, my cycle lamp, but a very handy thing to have is a small electric torch. It is essential that care should be taken in leveling the camera, or some frightfully distorted, intoxicated looking lamp-posts or buildings will be the result, and you will certainly be told if you show such productions that you must have been out that night.

A lens hood is useful to keep out a too closely situated light on the left or right lens front, one that, although it does not come into the photograph, is likely to cause "flare" or "ghost" images through internal reflection in the lens. I use a small cardboard box about four inches deep by six inches wide with a hole in the bottom sufficiently large to allow of it being slipped over the lens, top outward; this makes a very efficient hood.

When working in wet weather a waterproof cover is necessary for the camera, also care must be taken to keep rain off the front of the lens. The lens may be wiped with a soft rag kept for the purpose even during the exposure, providing precautions are taken not to move the camera in any way. I have emphasized the importance of the camera being perfectly steady during exposure, therefore it is hardly necssary for me to warn photographers to avoid bridges where there is any fear of vibration through traffic.

As every photographer knows, the better the lens the better the photograph, but the cheapest of lenses nowadays give remarkably fine pictures, and except for the fact that to obtain a sharp negative it is necessary to stop down and so increase the exposure, any lens will suffice. The man with the rapid lens working at F.4 or thereabouts can make very short exposures. A great deal was heard about a new lens invented by Dr. Grün some few years ago, but what has become of it now I am not aware. It was said to work at an aperture of F.2, enabling exposures as rapid as one-fourth of a second to be made upon open, well-lighted views. Quick exposures were also tried with success, I believe, in theaters during a performance under ordinary conditions of lighting.

Whatever may be the lens used, the aperture best suitable for work is in my opinion F.11, and in some cases even F.16, so that with a lens having a full aperture of about F.7 we can increase the depth, make more sure of our focus, and the *sharpness of our high lights* by putting in a couple of stops. The sharper the lights the less chance of halation. All exposures should be made with the cap, as it may be necessary to put it on and off during the exposure, and a shutter is not easily opened or shut without jarring the camera. Care should be taken to see that the lens is firmly fixed and not likely to fall out of the camera front. Many of these remarks may sound absurd, but even to the most cautious worker the unexpected may happen.

Coming now to the question of plates, any plate may be used, no matter how quick or how slow, only, as we do not care to stand about all night over an exposure, the quicker the plate the better.

It is absolutely essential that the plates be backed, unless one is using double-coated plates such as the "Seed." I have used these latter frequently unbacked, and obtained splendid results. A good double-coated plate is certainly the thing to use if it is intended to make lantern slides of the views taken, as there is far less halation than in single-coated plates; the high lights stand out clear and crisp, and are free from circles, flare and radiating rays, the latter due to streaky backing. Avoid putting on backing in a streaky fashion, or the result may be disastrous. The marks develop up very frequently, causing peculiar Aurora Borealis effects upon the plate.

Snapshot isochromatic plates are suitable in some cases, but as a rule I avoid them for night work, although I would not be without them for daylight exposures on any account. There is far too great a risk of light and chemical fog in the development, which is necessarily prolonged, not to mention the fact that they have always proved themselves much slower in my hands than ordinary rapid plates.

Films may be used and need no backing, as owing to their extreme thinness and the fact that they have a paper backing they are very free from halation.

No matter how well backed a plate may be, halation is not entirely prevented, and except where enlarging is resorted to a little is necessary for pictorial purposes.

Before attempting to give some idea of exposure and the method of development, I might with advantage offer a little advice as to prospecting for likely views, and some of the things to avoid.

Prospecting should most certainly be done without a camera, for the man who wanders about the streets of a great city by night with half a hundred weight of photographic apparatus will soon wish that the camera and himself were elsewhere than where they are. Choice subjects should be noted at all times either by day or night, and visited again by night if they were first observed in daylight, after which it is a comparatively simple matter to go straight to the selected spot and make an exposure.

It may be possible to do more than one view in a night. I have managed to pull off four between the hours of eight and eleven o'clock, but it is far better to do one good plate than take half a dozen indifferent ones, because the exposure is not the most tedious part of the work by any means. The worst part has to come, viz., development.

In choosing a point of view to photograph from, certain little things should not be overlooked. In the first place the nearest and brightest light, whether it is objectionable, and if so, how best to avoid it. The best time of night for taking the view must also be considered; if too late at night a great amount of the light required to build up the picture may be off owing to shops shutting, etc. Then if too early in the evening there may be a great many moving lights, or what is worse—a cab rank, and cab ranks are a rank nuisance at night from a photographic point of view. Or perhaps one may be photographing in a park when it is just about to close, and the camera must perforce close also and you clear out. By all means avoid motor cars, they occasionally do go, and when they do—well, they are a little faster than the plate you may be using; but apart from the fact that if standing in the middle of the road you are liable to be removed suddenly, it is the powerful acetylene lamps they carry that one must avoid and the lens capped instantly. Bicycles or any forms of vehicular traffic carrying lights should be carefully kept out of the lens no matter how rapidly they may be moving, or the plate will be crossed by innumerable black lines that on printing will look like scratches, clothes lines or telegraph wires.

On no account obstruct the traffic or a long coat surmounted by a helmet may loom up out of the darkness and order you to "move hon."

During preparation for your exposure do not converse with bystanders or you may expose the wrong plate—this is easily done in the darkness; or perchance you may do something more absurd, as the writer did once, enter into conversation with a gentleman thinking that the exposure was going on, and the cap never removed from the lens at all.

Keep loiterers out of the immediate vicinity of the camera front, as it is impossible to include any form of life in a night photograph unless the person or persons remain in the same place during the whole of the exposure. This may be arranged for in some scenes by getting friends to stand for short exposures of between five and ten minutes, providing they are able to recline against something steady. People and other objects moving even slowly have no effect upon the plate, but keep them moving.

You may be pestered to "please take my photy," or by a noisy nuisance of a newsboy who wants you to "snatch my dial, guv'nor," and before you can kick it, disappears. If your attention is taken off your camera for a moment an individual may be kind enough to kick it over; this happened to me not long since and the person hadn't got a squint; if he had there might have been some excuse for his trying to go where he was looking. In dealing with crowds one must not be too reserved nor yet too free; politeness and firmness go well together with a little spicy language thrown in occasionally. If you don't respond when addressed by certain classes they will become emboldened, take you for a foreigner, and start speaking a language decidedly strong, which you must take and give with as good a grace as possible if you wish to hold your ground. I have had a mob of half and wholly intoxicated individuals around me at night, and it was a draw as regards conversational powers, although I was a bit dry after it.

Don't attempt photographing in low-class quarters of large cities without having one or two friends to accompany you. It is in some of the slum districts, generally speaking, that one finds good pictures, but a bull-dog or a couple of friends are indispensable. You may have a revolver in your pocket, but what is the good of it when you are taken unawares with your head under the focusing cloth? The suburbs and certain parts of the city of Paris are highly dangerous, especially around Montmartre, and some of the streets near the Ile de la Cité. London in the East End and Glasgow in the vicinity of the docks, Edinburgh, and all other cities have also their haunts of crime and vice. So far I have always worked alone, and although at times I have been in queer corners, have never yet been "cornered."

Mention has already been made as to rise and fall of tide, rocking effect of wind, etc., upon shipping in harbor scenes, also about keeping out the moon in any views.

I have prepared a table of exposures which may be of some assistance, providing one's own judgment is used as to increasing or decreasing the exposure by five minutes according to the quality of light. The table is only approximate, and a little latitude on the side of over-exposure can be easily remedied in the dark room, as it is certainly better to have something on a plate than nothing at all through under-exposure. If the sky be particularly dark there is not so much risk of over-exposure, it is when illuminated by a full moon or on summer nights when distinctly blue that one runs the risk. There is an old saying with regard to daylight work, viz., "expose for the shadows and let the high lights take care of themselves," well, this is equally applicable to night work. Get all the details possible out of the shadows, and the worst that can happen is reversal of the *centre portions* of high lights such as arc lamps; it is comparatively simple to put this right with a brush.

Having been out in the dark we will now go into the dark—room, and here commences the real work of night photography. In the first place, cleanliness has to be strictly observed, clean dishes, clean hands, clear solutions free from sediment and a perfectly *safe light.* Whatever developer we may use, and we all have our favorites, it must be diluted down very considerably, quick developers such as rodinal more so than slow ones such as pyro-soda, for our plate has to be coaxed up slowly, not driven or forced. On no account should a plate be developed in less than *twenty minutes* or over *forty minutes;* generally speaking, it may be finished in half an hour. One of the main reasons for failure by many who attempt night photography is that they invariably treat the plate much the same way as they would a daylight exposure, and as a consequence up flash all the high lights black and dense, and the shadows—well, there is nothing else but shadow when the plate is fixed, with a lot of black circles indicative of light.

To develop the plate, the gelatine surface of which should on no account be fingered, it is placed in a perfectly clean dish film up and flooded with the diluted developer, then covered up, and rocked well to free it of any likely air bubbles. After having been in the developer for a few moments the plate is removed, and either placed in a large dish with cold water or put film up under a running tap, and held there whilst the backing is removed with a tuft of cotton wool. The light should be turned down as much as possible without inconvenience to prevent any chance of fog. Unequal development would take place due to draining off of the developer if we were to remove the backing without keeping the film flooded with water. After the backing has been removed, the plate and dish should be well rinsed and then flooded with fresh developer sufficient to cover the plate about one inch deep. It is then covered up and may be safely left without continuous rocking for ten minutes, a slight rock being given at odd intervals.

On no account should the plate be examined by transmitted light; always look at it by reflected light as it lies in the dish; and before renewing the developer, which should be done every ten minutes, thoroughly rinse off the old stuff. To one not accustomed to the appearance of a night negative, it may be somewhat disconcerting to find next to nothing on the plate after twenty minutes' development, but it must be remembered that our view is a night one, therefore the shadows will largely predominate, and shadows are in a negative almost clear glass. Do not examine the plate too much during development; I never look at mine until well over ten minutes. You are perfectly safe to leave it; your developer is weak and cannot do any harm. When to stop development is a question most serious, a question oft asked but not so easily answered, at least in daylight work. However, I think that one may safely say that a plate is fully developed when the clear margin around the edge due to the rebate of the carrier begins to get discolored or smoky; this is a sign that the developer has done its work, and that the unaffected silver salts are being attacked. The blackness of the high lights should also be taken into consideration; they must be pretty strong, yet not too strong or they will print out chalky. Having given half an hour or more for the development of a plate that we feel has been pretty correctly exposed, we are quite safe in giving it a rinse in a little stronger developer for a moment, rinsing in water for a minute or so, and placing in the fixing bath. This should be pretty strong, more so, perhaps, than that used for daylight negatives, as there is considerably more silver to remove. I have no special strength—speaking photographically—and pop them into a bath made up in a very rough and ready and not too economical way. Thorough fixation is essential, and on no account should the plate be examined by ordinary light until fixation is complete. I never allow less than fifteen to twenty minutes for this operation, and if the plates are double-coated, not less than thirty to forty minutes.

As regards developers, I prefer pyro soda made up according to the "Imperial" formula which I need not give here, suffice to say that I use about four drachms of the pyro to five drachms of the alkali in about sixteen ounces of water. This is only approximate: I sometimes use it a little weaker or a little stronger. To finish off a plate, I rinse it in one ounce of the normal developer (equal parts of pyro and alkali) in eight ounces of water. This must not be allowed to act on the plate longer than one minute, it is simply used to strengthen up the detail. On no account use bromide in development, unless it be with a camel-hair pencil to retard a too obtrusive high light.

In using quick developers such a rodinal, dilution must be carried to the extreme, say perhaps one drachm in twenty ounces of water. Too much pyro soda developer in a diluted state should not be made up at once, as in this condition it is rapidly oxidised, and stains instead of developing the negative. For this reason a plate should certainly not be left longer than ten minutes without changing the solution.

Having fixed, the next proceeding is washing. This ought to be well done in perfectly clean running water, so that on removal from the washing tank there are no specks of grit or other particles adhering to the emulsion.

Precaution must be taken in the drying to ensure a perfectly clean negative; finger marks, bits of dust, scratches, etc., all show up only too plainly when the plate is dry if care has not been taken. There is so much clear gelatine present that dust and marks of any description are far more serious on a "night-scape" than they would be on a daylight production, particularly if they are required for lantern slide purposes. Stains due to the water trickling down the plate when set up to dry may be prevented by mopping up all the superfluous moisture with a very soft piece of rag, free from fluff, such as an old handkerchief.

Intensification can only be applied locally to skies. I would strongly advise that a negative that through under-exposure is somewhat thin should be thrown away, if it is at all possible to obtain another. I have never yet been able to improve a thin "night-scape" by intensification except, perhaps, locally to strengthen traces of cloud in a sky.

Reduction may be attempted with success, but care has to be taken that it is not carried too far. Local reduction is very necessary sometimes when an arc lamp shows up too strong in a view. The mechanical Globe Metal Polish reducer is very handy in such cases if carefully used with a stout artist's stump. It is much preferable to take a view over again if possible rather than attempt either intensification or reduction.

As to the preservation of the negative, it should be carefully varnished, the plate being well flooded and then thoroughly drained before setting up to dry, for little rills of varnish will print up distinctly. Thin negatives of this description ought to be varnished if they are valuable at all, although I do not varnish my own, and as a consequence have lost a goodly number of them through printing stains, etc.

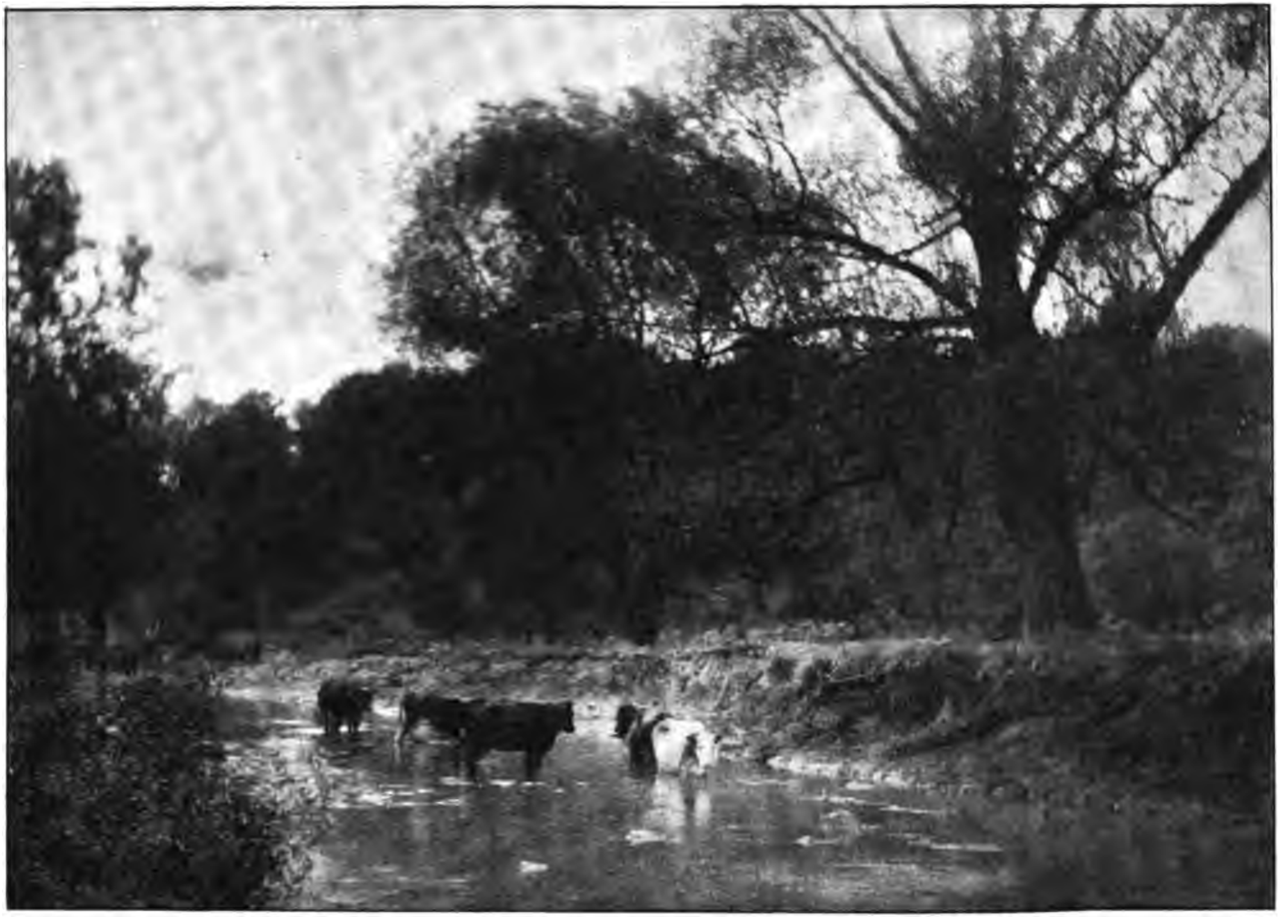
Before concluding, some mention may be made of the most suitable methods of printing night views. The best effects are obtained by printing in black or blue carbon—browns, reds and other colors being, of course, not suitable. Platinum prints stand first and foremost, followed by black or blue carbon, double or single transfer process, according to necessity. Finally we have S. C. P. for contact work, and bromide paper for either contact or enlarging. I will not enter into details concerning the methods of working these various processes as they are already very well known. There is only one thing I might mention, and that is to ensure thorough fixation, but at the same time not to leave prints too long in the fixing bath, or the shadows will lose their rich blackness so necessary for contrasty effects in night views and become gray.

Toning is of no use, but a yellow color may be imparted to the high lights by immersing the washed print in a solution of potassium permanganate about 2 per cent. in strength. This must be carefully done, for if too much permanganate be used, the print will, after a week or so, turn purple and go off color. I had the misfortune to exhibit a print treated in this manner, and it had not been on exhibition three days before it went purple in the face—presumably with shame.

In mounting and framing every one must suit his own taste, but I have found by experience that dead black borders and frames set night pictures off to the best advantage, the margin between print and paper to vary according to the nature of the subject. Very frequently it may be better to frame close up without a margin at all.

In conclusion, whatever may be the nature of the subject photographed at night, keep a note of exposure, weather conditions, etc. It is impossible to remember every little detail, and carefully made notes will be of the greatest assistance in preparing a table of approximate exposures for future work.

Two loops of string from the tap, by which a negative can be suspended below it, form a simple and most efficient device for washing one negative at a time.



THE LOWING HERD **A. B. HARGETT**

Honorable Mention

A CARBON CATECHISM.

What is a carbon print, and how is it produced? The image in a carbon print consists of gelatine and some pigment intimately mixed together. As lampblack was used in early work, the name of carbon was given to the process, and is still generally retained, though many other pigments are used. Briefly, a layer of gelatine and pigment is made sensitive to light by the addition of a proportion of potassium bichromate; it is printed upon by daylight beneath a negative in the ordinary way. The action of the light is to render the gelatine more or less insoluble in water. The print is developed in hot water, which dissolves away the gelatine where the light has acted least, leaving as the image those parts where the light has acted most.

What are the materials required? A supply of carbon tissue, that is, paper coated with the gelatine and pigment; a supply of potassium bichromate, by which the tissues may be made sensitive to light, if it has been bought in the insensitive condition; paper on which the image is to be supported, and a little alum.

How is the tissue sensitized? The simplest form of senitizing bath, and that most commonly used, is made by dissolving one ounce of potassium bichromate in thirty ounces of water. This is an orange-colored solution, and sufficient ammonia should be added to change the color to a bright yellow. One or two drams of strong ammonia will be sufficient for the purpose. It should be added very slowly, and the solution shaken up the while. When sufficient has been added, the solution will suddenly change color to a lemon yellow. The tissue is immersed in this solution one sheet at a time, each piece being immersed for three minutes. The tissue should be turned over two or three times during its immersion, and all air-bells broken. When the tissue is withdrawn, it is laid face downward upon a sheet of zinc or glass, and a flat squeegee is drawn lightly across the back of the tissue in all directions to expel the surplus liquid. The tissue is then removed, and suspended over a line in the dark to dry.

Is it better to buy tissue ready sensitized or to sensitize it at home? The better plan for the beginner is to buy the tissue ready sensitized, in which case he knows that any difficulties which may arise are not due to an error in sensitizing. A small supply only should be bought, and it should be used up within a week. When the worker has overcome the initial difficulties he may buy the tissue in an insensitive condition, and sensitize it as required.

Are any special precautions necessary in drying the tissue? It must be dried in the dark, that is, not in daylight. It is quite insensitive whilst wet, but as it dries becomes at least as sensitive as gelatine-chloride paper. Ordinary gaslight does not affect it appreciably, but prolonged exposure to the light from an incandescent mantle does cause the gelatine to become insoluble. Drying should not take longer than eight hours, nor should it take less than four hours.

Under what condition should the tissue be dried? If simply laid face upwards over a rod or line in a well-ventilated room at a temperature of seventy or eighty degrees Fahrenheit, the tissue will dry in the required

PINHOLE Honorable Mention R. E. WEEKS time, but in the course of drying it will warp and bend so that it will be difficult to bring it into close contact with the negative. A better plan is to squeegee the tissue, immediately it has been sensitized, upon a flat surface in the same manner as when gelatino-chloride prints have to be glazed. Glass, pulp boards, enamelled plates, or sheet celluloid may be used. The last is probably the best, as the tissue never refuses to strip once it is dry.

Is a drying cupboard necessary, and if so how should it be constructed? A drying cupboard is not absolutely necessary. If the tissue is dried upon an opaque slab it may be stood against the wall in any ordinary room with the tissue next to the wall. A drying box is, however, a great convenience, and may be made in a very simple manner. A packing case placed on end, and raised a few inches from the floor, should have ventilation holes bored in the lower end, and a larger one in the top. A small kerosene lamp placed in the centre, and raised till the top of the chimney is just outside the packing case, will create a sufficient draught when the lid, which may be hinged as a door, is closed. The temperature may be regulated by raising and lowering the flame of the lamp. The fumes arising from the combustion of gas act injuriously upon the tissue, but no evil effects have been found to result from the arrangement suggested.

How long may the tissue be kept after sensitizing without it undergoing any serious deterioration? It remains in good condition for two or three days, and then deteriorates rapidly. Tissue sensitized at the time of manufacture remains in good condition about twice as long as that sensitized at home. If either variety is stored in an air-tight box containing a supply of dried calcium chloride, it may be kept for several months without showing signs of deterioration. It must not be used directly it is taken from the box, but must be allowed to absorb sufficient moisture to become pliable.

What type of negative is best suited to carbon printing? The tissue is capable of rendering a very long range of gradation, and in consequence the negative should be much stronger than is required for any of the other printing processes now in vogue. In developing a negative for the purpose it may be developed one-fourth of the time longer than for gelatino-chloride paper.

Can the tissue be sensitized to suit negatives possessing different degrees of contrast? The sentisizing bath may be varied between such degrees of concentration as one per cent. to five per cent. of potassium bichromate, sufficient ammonia being added in all cases to neutralize the salt. Three per cent. may be taken as the normal strength, and negatives of a type suitable for use with a tissue so sensitized always give the best results. Tissue for use with negatives possessing but a low range of gradation should be sensitized on a bath containing a smaller percentage of bichromate, and negatives possessing strong contrast should be printed on tissue sentisized in concentrated baths.

Can the sentisizing bath be improved by the addition of other ingredients than potassium bichromate and ammonia? Mr. H. W. Bennett published in *Photography* for October 17, 1903, the results of some experiments he had made. He recommended the following formulæ:

AMERICAN BISON Honorable Mention **Norman Kiedaisch**

A.

Potassium bichromate	1	ounce.
Citric acid	¼	ounce.
Water	50	ounces.
Ammonia as required.		

B.

Potassium bichromate	1	ounce.
Citric acid	½ to 1	dram.
Water	50	ounces.
Ammonia as required.		

C.

Potassium bichromate	1	ounce.
Potassium citrate	½	ounce.
Water	50	ounces.
Ammonia as required.		

D.

Potassium bichromate	1	ounce.
Sodium carbonate (crystallized)	½	ounce.
Water	50	ounces.
Ammonia as required.		

In each instance ammonia must be added till the solution changes to a lemon yellow color. Solution A should be used for general work; solution

B or D may be used for under-exposed negatives showing harsh contrasts; solution C gives a result similar to B, with a larger proportion of citric acid: and formulæ A and B are preferable to C and D.

What is the safe-edge, and how is it used? The safe-edge is an opaque margin to the negative used to prevent the edge of the gelatine image washing up in development. It is desirable that the edge of the image should be vignetted off, and for that reason the safe-edge should be placed on the glass side of the negative. Narrow strips of black paper may be pasted on the glass, or the edges may be obscured with opaque paint.

How is the strength of the image gauged in printing? As the image is invisible before development, a guide of some sort is necessary. Many forms of actinometers have been devised. The simplest of all is a negative of precisely the same character as that from which the print is to be made. The safe-edge having been applied, the tissue is placed on the negative in the printing frame. A piece of gelatino-chloride paper is placed behind the second negative in another frame, and both are put out to print in daylight at the same time, and the gelatino-chloride print is examined occasionally. When it is printed just as deeply as the finished image is required, the carbon tissue will be about correctly exposed. As gelatino-chloride papers vary in sensitiveness, and carbon tissues do the same, the precise depth to which the guiding image should be carried must be found by experiment. The commercial actinometers are in effect small negatives used in a similar way. The value of the negative to be used as compared with the tints on the actinometer is found either by trial, or, after some experience has been gained, by simple inspection, and when the printing paper in the actinometer has attained a certain depth of color it is known that the carbon tissue is sufficiently exposed.

How long may the tissue be kept between exposure and development? If the tissue is returned to the calcium box it may be kept for a very long time, but under ordinary conditions the image will continue to gain in strength. This is known as "the continuing action." An image which has been printed only to one-fourth of the required depth will under suitable conditions gain its full strength in about twelve hours. This property may be found useful when printing in dull light; but as the action depends upon the moisture in the air it is difficult to know exactly when the accession of strength has taken place. It is better to print to the required strength and develop immediately afterwards.

How are the preparations for development conducted? The tissue is taken from the printing frame and is immersed in a dish of cold water, together with the support upon which the image is to be developed. The paper backing on which the gelatine is coated, being of an absorbent nature, quickly expands, and the tissue rolls up, gelatine side inwards. In a minute or so the gelatine begins to expand and the roll to open out. In time the tissue would coil up in the opposite direction, but just before it has opened out flat it must be brought face to face with the support, drawn out of the water, and the two squeegeed together on a flat surface. As the gelatine at this stage is not fully saturated with water, it will absorb that which adhered to the support, and the two surfaces will be closely united. The print must then be placed between blotting boards to remove surface moisture, and allowed to remain there for about five or ten minutes before development.

What is the difference between single and double transfer? In single transfer the image is developed upon a sheet of paper, the face of which has received a coat of insoluble gelatine, and to which it permanently adheres. It will be seen that the image in this case must be reversed as from right to left. In the double transfer process the tissue is squeegeed upon a support known as the temporary support, from which it is afterwards transferred to the final support. The image is thereby again reversed and brought the right way round. The surface of the print upon its final support may be glossy or matt, according to the character of the temporary support. The print made by the single transfer process may be smooth or rough, according to the paper selected.

How is single transfer paper prepared? A tough, well-sized paper, which will bear soaking in hot water, and having a surface of the kind desired, is coated with the following solution:

Gelatine (medium hard)................	1½ ounces.
Water	20 ounces.

The gelatine is soaked in the water till it has absorbed as much as it will. The temperature is then raised till the gelatine is melted, when sixty grains of chrome alum dissolved in two ounces of water is added slowly with constant stirring. The solution should remain limpid, but if it should become ropy on the addition of the chrome alum it may be liquefied by the addition of acetic acid. No more of the solution than is required for the work in hand should be made up, as once the jelly has set it cannot be liquefied again. A small quantity of the solution is to be spread evenly over the surface of the paper, care being taken to drive it into all the interstices if the paper is at all rough. This is the regular method. The inexperienced worker will probably find it much easier to coat the paper with a plain solution of gelatine of the strength given above, and to render it insoluble when it has set by immersing in a solution of chrome alum of the strength of thirty grains to the ounce of water.

What apparatus is required for development? Very little beyond that which is likely to be already in every dark room. In addition to the ordinary photographic measures and dishes, a sheet of thin smooth zinc a little larger than the largest print that is to be developed, and a deep zinc tray or tank (standing on feet) for hot water are wanted. A gas jet or oil lamp to stand under the tank and keep the water hot is also wanted. These appliances will be found most useful when much work has to be done, but if only one or two prints are required at a time a sheet of glass, an ordinary developing dish, and a kettle of boiling water will serve the purpose.

What variations in treatment are required by different grades of paper used as the final support in the single transfer process? In the case of smooth papers the adhesion between the tissue and the support takes place very readily. A light application of the squeegee is all that is necessary, and after all surplus moisture has been removed with blotting paper the print need only be allowed to lie exposed to the air for a few minutes—five to ten will be amply sufficient. When the paper has a rough surface special precautions must be taken to bring the two surfaces into close contact. It is not desirable in any case to use great force with the squeegee, but the print should be placed between bibulous boards under pressure for a period of from a quarter to half an hour till the tissue absorbs all the moisture lying in the cavities of the rough surface of the support.

What is the first stage in development? The print is placed in water at a temperature of about 100 degrees Fahrenheit, and the air bells which gather on both sides should be swept off. In the course of a minute or so the pigment will begin to ooze out at the edges, showing that the warm water has dissolved the layer of gelatine at the back of the tissue which has not been made insoluble. The print must be kept under water, and whilst with one hand the support is held down by the edge, a corner of the tissue backing paper is plucked up by a finger nail of the other hand and is turned gently back. The paper must not be dragged off, but turned back and separated without force. If the two sheets do not part readily, the corner should be laid down again and the water heated a few degrees higher. Prolonged soaking at this stage leads to irregularities in the image and undoubtedly a little experience is necessary before the exact temperature required by each print is known. The longer the print has been allowed to rest after squeegeeing the hotter must the water be made. Once the backing has been lifted beyond the limits of the safe-edge it should be drawn off with a steady pull; any check will leave a line across the print which it will be more or less difficult to remove in development. The backing paper being removed is thrown away, and the image adhering to the support and masked with the remains of the unaffected gelatine and pigment is ready for development.

Is it possible to know at this stage if the print has been correctly exposed? The backing paper as it is stripped off will afford some indications of the correctness or otherwise of the exposure. If the backing paper is nearly bare of the pigmented gelatine it is probable that the print is over exposed, or, what is much the same thing, that too long a period has been allowed to lapse between exposure and development. If, on the other hand, the backing paper is still evenly covered with the pigmented gelatine it is probable that the image is under-exposed. If, however, there is a more or less clear negative image on the backing paper there is good reason to suppose that the exposure has been correct, and that a satisfactory print will be obtained.

(To be continued.)

A VERY SIMPLE AND efficient plate-washer can be made of two boards the width of the negatives. A ledge a quarter of an inch high is fastened along each side of both. One end of one is hung just below the tap and the water allowed to run down it in a gentle stream. The upper end of the second is placed just below the lower end of the first, so that the water which runs away from the sink as it descends the first runs back into the sink as it descends the second. The arrangement is like a V laid on its side with the point supported. The plates are laid along the board.

HOME-MADE ACTINOMETERS.

G. A. Towers.

I notice that a correspondent complains, amongst other matters, that gum workers and "experts" do not state the probable time that one would need to expose a gum print in Spring or Summer weather, and that to a beginner, who possibly would not use it again, the cost of an actinometer is a consideration. May I be allowed to point out, as one who has tried gum, though only as a beginner, that the information if given would be nearly useless, as negatives, light, and the sensitive gum paper vary so, that the beginner would lose more time and material that way than would pay for a silver-plated actinometer?

Let the gum worker make his own actinometer, at a cost of five cents or less, and if success is not obtained in gum work no one need rue the cost of the disused instrument.

Mine was made by photographing the sheet of a calendar, numbered 1 to 31 (for the days of a month), endeavoring to obtain a clean-printing negative, and a positive transparency was made from that on a lantern plate. Next, the plate was covered all over with white tissue paper, except the number 1. This tissue paper was stuck down with gum. Then another piece of tissue was cut to cover all but numbers 1 and 2, and stuck on top of the other paper, and so on until number 31, so that number 31 had one thickness more of tissue than number 30. This, of course, applied to each number—each one higher having one thickness more tissue than the next below it.

The lantern plate was backed with a cover glass to strengthen it, keeping the printed numbers outside and the tissue paper between the two glasses, and the two were then bound together with lantern slide binding strips.

In use, the negative from which it is proposed to print in gum or carbon is placed out with a small piece of P.O.P. behind it, and the actinometer in a quarter-plate printing frame beside it, also with a piece of P.O.P. in contact with the numbers. When the paper behind the negative is judged to be sufficiently printed—allowing for the difference between P.O.P. and carbon or gum-bichromate—the highest number just visible is observed; then, on again putting the same negative out to print, with the gum or carbon paper in contact, one has only to place out the actinometer with it, print to the same number as before, and, barring variations in sensitiveness of the bichromated materials, correct exposure is absolutely assured.

My own instrument is now four or five years old, cracked with rough usage, discolored on the edges by having been left out in the rain, but is still usable and correct.

Another even more simply-made print-actinometer, recommended by various workers, is a spoilt quarter-plate cleaned of its film and covered with tracing or tissue paper. The first piece goes all over the glass; the second is 1-3-inch shorter (taking the long way of the plate), and is stuck on top of the first; the third is again 1-3-inch shorter than the second, and so on to the end of the plate, until the glass is covered with steps of the paper. The one thickness of the paper is numbered 1, the two thicknesses are numbered 2, the ten thicknesses are numbered 10, until all are numbered in ink, keeping all the numbers in a line down the plate. In use, a strip of P.O.P. is placed behind the numbers, as already described.

I think an instrument made like this would be as serviceable as one costing much more. There is also the added pleasure of making some of one's own apparatus.—*Photography.*

SEEING IS BELIEVING.

Through the courtesy of Mr. Alfred Stieglitz, I have been permitted to examine a number of transparencies made on the new Lumière Autochrome plate, and words cannot describe their superiority over anything that has hitherto been known as color photography. The most delicate flesh tints as well as the most lurid colors of drapery and the brilliant hues of flowers were all faithfully rendered and establish beyond doubt the possibilities of the process. Mr. Stieglitz has just returned from a European sojourn of some months and the plates in his possession were the work of himself and Messrs. Eduard Steichen and Frank Eugene. While the results they have obtained are highly satisfactory, it is doubtful if the process will prove equally successful in less skilled hands, as we have it on the authority of the Lumière agent in this city that the specimens in the possession of Mr. Stieglitz were far superior to anything he had seen in the Lumière factory at Lyons, France. If this is so, it is indeed fortunate for the Lumière Company that these gentlemen cornered the first supply of plates. Photography thus adds another debt to the many which it already owes to Mr. Stieglitz and his skilled co-workers. Their best results were obtained by methods differing greatly from the published instructions issued by the Lumière Company, and we are informed that the next number of *Camera Work* will contain explicit working directions, and by that time the plates may be obtainable in this country. Meanwhile the Lumière factory at Burlington and their New York sales agent can give no information, and we can only wait in patience with the knowledge that color photography has at last been achieved.

J. P. CHALMERS.

PHOTOGRAPHING FLOWERS.—A note in *Apollo* insists on the advantage of a lens of long focus, rather large aperture, and almost without saying it will be understood that in all ordinary cases orthochromatic plates are desirable, and, moreover, a yellow screen should be used. Cut-flowers and potted plants are often best photographed indoors, and it is aptly suggested that all required control of light and shade can be realized by following the lead of the professional photographer and building up a suitable cardboard structure round the flowers or plants. Obviously no concise rules can be given, as light or dark or medium must be used according to the effects desired. Indeed, all the various expedients of the professional portraitist as reflectors, screens, or top shades, may serve in connection with floral photography, whether in a greenhouse or in an ordinary apartment.

EDITORIAL NOTE AND COMMENT

Our English contemporary, *Photography,* enjoys an editor, R. Child Bayley, who is subject to occasional fits of spleen in which he rages about, hitting every head he sees. Rumor has it that these are occasioned by interviews with his publishers, who find the magazine the only unprofitable one among the many which they publish. However that may be, in his issue of August 20th he perpetrated an unusually virulent screed in which he slashed right and left among the poor American journals, raking "Wilson's" fore and aft and leaving it in a sinking condition, firing a broadside at this magazine, and ending by slapping Mr. Abel on the cheek real hard. Although a trifle longer than usual, the outbreak was very similar to those of the past. But, *mirabile dictu,* for the first time in his life, R. Child Bayley is sorry. Of his own accord, on September 17, he printed the following:

"Referring to the American photographic magazines, a few weeks ago we observed that when they were bad they were very bad, and instanced an error in 'American Photography.' Our attention has been drawn to the paragraph by a friend, who writes that 'it is hardly fair to describe "American Photography" as very bad. I should call it distinctly good, and a worthy successor of the "American Amateur Photographer." ' So should we. On re-reading the paragraph, we must confess that it gives a totally wrong impression of our opinion; and we hope our contemporary will accept our expressions of regret, which are both voluntary and sincere. We hope the observant 'Watchman' may long be spared to keep his eagle glance on things photographic; and that he will let us down lightly for an aspersion we certainly did not intend to apply to his magazine in general."

Thank you, Mr. Bayley; your expression of regret is handsomely put, and we bear you no ill-will.

P.S.—We learn that the circulation of *Photography* has jumped from 7,500 to 30,000 since it scored on color photography, hence the editor probably feels better disposed toward the world.

We print elsewhere an account, taken from an English weekly, of the latest development in color photography, this time an American invention. We must confess that we do not quite understand how the same image can be printed on three parallel color bands from one band of a negative, and give sharp positives, but the editor of the *British Journal of Photography* says that the practical results are satisfactory, so we reproduce the account as given, reserving judgment until after personal experiment.

The Lumière process seems to be somewhat less successful in the hands of the public and much more so in the employ of artists than its promoters supposed. The plates seem to be inordinately susceptible to careless handling, frilling badly on the least provocation. On the other hand, Stieglitz, Steichen, and Eugene have produced results which make painters gasp in amazement, and are far superior to anything the manufacturers themselves have been able to produce. It is another startling proof that the trained artist is master of the most mechanical process, for if there ever was a process apparently not susceptible of artistic intervention it is this. The whole thing is worked out on a mathematical basis, and users are expressly warned that the slightest deviation from prescribed lines is fatal to success. Nevertheless, the fact remains that the artist makes a superb color picture, while the average amateur produces a screaming, staring crudity.

America has not yet fared well in the distribution of Lumière plates. The total number sent here by the makers seems to have been a half-dozen used by their American representatives. Meanwhile Mr. Stieglitz has returned loaded down with them, having almost cornered the market, and has had a short private exhibition. We hope he will soon let the public see what can be done.

The subject for the October Competition, closing November 1, is Mountains. The Calendar Competition closes the same time. Prints must be sent to Frank R. Fraprie, 6 Beacon street, Boston, Mass., and *not to the New York office*. Several prints are not considered each month for violation of this rule, which is inflexible. Prints sent to New York are never seen by the judges.

These competitions are open to any photographer, whether a subscriber to AMERICAN PHOTOGRAPHY or not.

The first and second prize winners will be awarded bronze medals. The first prize winner, in addition to the sum of five dollars, will receive a bronze medal with blue ribbon and silver bar. The second prize winner a bronze medal with red ribbon and bronze bar. Those submitting good work, but not sufficiently high to warrant a prize, are accorded honorable mention. Pictures awarded prizes or honorable mention may be reproduced, and unsuccessful pictures will be returned if requested.

Future subjects are: For November, Atmospheric Effects, including Fog, Mist, Rainy or Snowy Days, Rainbows, Sundogs, Clouds, etc. For December, Genre. For January, Portraits. For February, Snow Scenes.

Several prints sent in for the Animal Competition were held until December, being classified as genre subjects, because of the prominence of the human figure.

The Calendar Competition calls for four prints mounted with calendar pads to make a four-sheet calendar for 1908. Neatness of arrangement and appropriateness of selection of subject are important.

This month in addition to the two prizes awarded for animals, a bronze medal is given for the best pinhole picture, which is reproduced as the frontispiece. Honorable mention in the Animal Competition was awarded to the following, in addition to those whose pictures were reproduced: W. A. Yauch, W. F. Zierath (pinhole), C. B. Bolles, Horace E. Stout, E. B. Collins, W. W. Wallick.

Any half-plate plate with a front wide enough to take two quarter-plate lenses with their centers 3 inches apart can be adapted for stereo work.

OUR PORTFOLIO

Prints for criticism under this heading should be sent to Dr. John Nicol, Tioga Centre, N. Y. Only one by each reader will be criticised each month, and if more are sent the surplus will go to the waste basket. Mr. Fraprie will also criticise prints if sent to him at 6 Beacon Street, Boston, Mass.

54. CHAS. JUNG.—"In Washington Park," a part of a lake with trees in the distance, and a boat with three figures, is fairly good but easily might have been much better. The principal fault is the fact that the figures, instead of attending to the rowing and steering of the boat, are staring at the camera,—posing to be photographed in fact. Then, the boat is in the very center of the composition which gives an easily felt weakness to it, which would have been avoided by a little either to the right or the left, and the sky is one unbroken mass of pure white. Aside from these faults the photograph is very good, indeed. The subject is fine, the point of view well chosen, and the technique practically faultless. A little careful study of art in some such work as Burnett's Essays would help you to reach a high rung of the artistic ladder.—N.

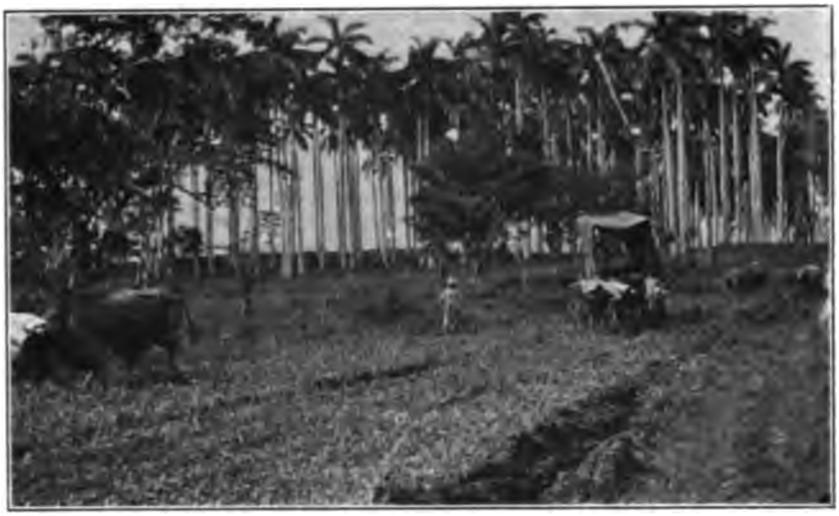
55. H. HARVEY.—The unnamed print, evidently a creek or sheet of water with banks and foliage on either side, is a good subject spoiled for want of sufficient exposure. Foliage and banks are simply black, while water and sky are represented by white paper. The exposure has been so short, that while development has been pushed till sky and water are opaque in the negative, and consequently perfectly white in the print, everything is as black and free from detail as at midnight. You must either give a longer exposure or get a lens working at a much larger aperture.—N.

56. (MISS) MERCEDES SALTMARSH.—We chose the half-length, in preference to the full-length figure as much the better of the two, in spite of the light-spoiled part on the left; and, on the whole it is very good. The shears in his hand indicate an occupation, and although he is taken full-face, there is no feeling of posing to be photographed, but rather an expression of deep thought as if puzzing out what he should do next. The picture is altogether satisfactory, the shears especially at once leading the eye to the objective point—the face. Please, in future, to notice the heading of this column, and send only one print; a second or more always goes into the waste basket.—N.

57. F. J. ARBUCKLE.—"The Road to Neiva," a scene in Cuba, with in the distance a lot of palm or other tropical trees, and in the foreground a bullock drawn vehicle, a man and a single bullock, but unfortunately the first and third are each near separate ends of the print, with the figure about the center. In a group together the composition would have been good instead of, as now, taking the eye from side to side, dividing the interest and weakening the whole. Except for that one fault the print, as a "record of fact," is very fine, showing a technique that is almost perfect.—N.

58. JULES A. BOURQUIN.—The unnamed print, a creek or stream with bank and boat in foreground and tall trees in the distance, is a fine example of photography; a general landscape without claim to be a work of art. As there is no particular object of more importance that another, and all equally good technique, it may be enlarged without trimming. Your photography is so good that a study of art would bring you to eminence.—N.

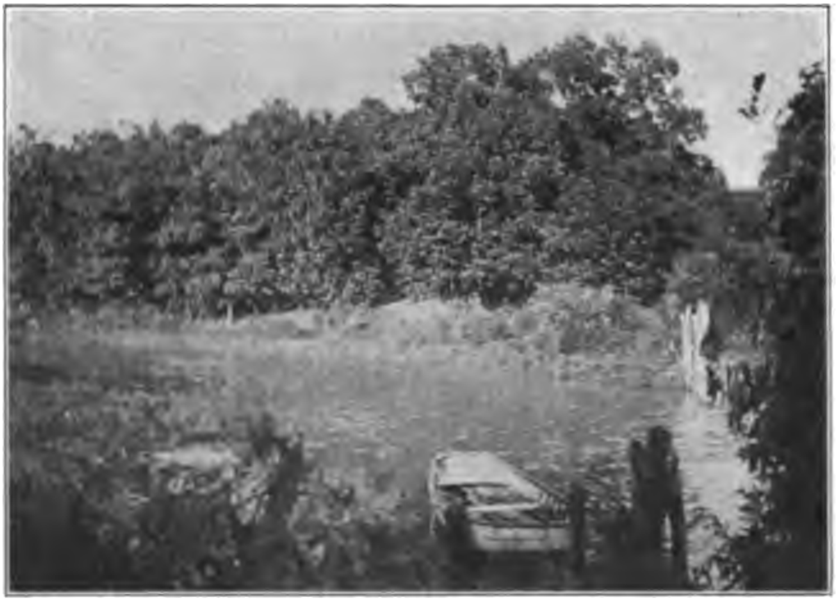
59. A. H. SEIFERT.—The unnamed print while a fairly good photograph, its main fault being a little under exposure, is without pictorial quality, the principal objects of interest being three trees, or rather the lower parts of them, a about equal distances across the print, no one of more interest than another. The subject, therefore, is without interest, and is hard-



57 THE ROAD TO NEIVA F. J. ARBUCKLE

ly worth the quality of photography spent upon it. Under different lighting and with what seems a road or path between the smaller, but, unfortunately, perfectly black trees in the middle distance, given more importance, we could imagine this subject made into a very fine picture. But first you must learn to appreciate the absolute necessity of ***sufficient*** exposure before you can make a picture.—N.

60. J. BROMMELL.—This is a nearly full length portrait of two women, much under-exposed and very far from sufficiently sharp; just such as might be ex-



58 JULES A. BOURQUIN

59 A. H. SEIFERT

pected from a small camera to which has been added a supplementary lens to shorten the focus so as to take objects in a larger size and consequently from a nearer viewpoint than the original lens was meant to do. Such "makeshifts" are rarely successful, and this is no exception. Another fault is the placing of the heads so close together, and the one figure covering up so much of the other. In other words, you have been trying to do work of a kind that your camera was never intended to do. Had you gone farther away and been satisfied with a smaller photograph you might have done much better.—N.

61. A. M. S.—"Sheep," a small "snap" of the usual quality, a record of a passing event, good as a memorandum, but with no pictorial quality. Such trifles serve their purpose, but those that produce them and are satisfied with them can hardly be called photographers in the true sense of the word.—N.

62. **Egbert S. Cary.**—We select the print without the figure for two reasons, because it is less "contrasty" than the other, and because of the unsuitableness and faulty position of the figure, which is "posed for her photograph" in a dress altogether out of keeping with wandering in the woods, and should not be there, especially staring at the camera. The print chosen is good both in technique and subject, and probably from the best point of view, but is sadly in want of an objective point—something that would have been its *motif* or on which the eye could rest—one object of more importance than all the rest and to which all else should lead. It is a very good photograph of the "record of fact" kind, but not in any sense pictorial.—N.

63. H. C. **Brown.**—"Minnehaha Falls" is far above the average of attempts at waterfalls, one of the most difficult of all subjects, as here the falls are not much over-developed, while the surroundings are fairly well represented. Two simple operations, one on the negative, the other during printing, would make it as nearly perfect as may be expected. The one is local reduction of the fall by a reducing solution on a tuft of cotton, the other toning down the too white sky, both in the well-known way.—N.

64. **Mrs. C. Findlay.**—The unnamed print is a fine subject, but with the figure too near the centre, the weakest point in all compositions, and the exposure has, as usual, been too short. Surely, you never saw trees so black with a sky so white. With the figure a little to the right, and an exposure sufficient to give the trees something like their appearance in nature, this might have been a fine little picture.—N.

62 E. S. Cary

63 H. C. Brown

65. **A. M. S.**—The unnamed print, evidently a woman kneading dough for bread-making, has only one fault, a lack of sufficient contrast. Subject, pose, arrangement, are all satisfactory, but the tone as a whole is a little too low, a fault that would have been avoided by a slightly longer development of the negative. Although we have said that the pose is good, further consideration gives a feeling that the figure is a little more at rest than is desirable; that is, it does not so much as it should, convey the idea of motion—of kneading. Both body and arms are too straight, too much as if she had suspended operation, while being photographed. To strengthen our opinion we have just watched the operation in the kitchen and find, as we had suspected, that in the act of kneading both body and arms are flexed or bent, conveying the feeling of motion very much better than in your print. Otherwise we like the little picture very much, and would have liked it better in an oblong square form than in the oval for which there is no visible reason. A visit to any of our large picture galleries will show how few artists ever adopt an oval or circular form, and never without some good reason. Almost always an oblong either vertical for portraits and horizontal for landscape, or *genre* work.—N.

66. **H. A. Tremaine.**—There is really nothing to say in favor of this little print except that it is one of the thousands of snaps taken evidently without care or knowledge, and, except for practice if taken as a means of study and improvement, only a waste of material. There is nothing in the subject worth photographing, and what there is has been poorly photographed.—N.

67. **W. Leonhardt.**—There is nothing favorable to say of the print. The figure

is too large for the lens, and everything is either simply black or as nearly so as can be. Try to see some good negatives and some good prints, and don't be satisfied till you produce something like them. This is simply too bad for anything. For the group you propose give as long as you can hold the camera steady, say, 1-25 of a second.—N.

68. F. A. Hubbell.—"Outlet of Hackett's Lake" is a good subject well photographed, and would have been a little better if three-quarters of an inch had been trimmed from the foreground, thereby lowering to a better point the horizon line. It is one of the very few snap-shots that have got sufficient exposure. Its one fault is the want of any particular object to bring all the rest into relation to it—the concentration so effective in all good pictures. It is, however, a very good photograph, and one that grows on the observer the oftener he goes to it.—N.

69. John S. Bies.—"A Lake Scene" is a good photograph of what may be called the "lop-sided" variety, *i.e.*, with too much matter on one side and too little on the other, although, on the whole, it is fairly effective. It is better than nine-tenths of such prints that come to us, the only real faults being the, to us, unpleasant color, a yellowish sepia, and perhaps a slightly too low horizon line which would have been obviated by half an inch more foreground.—N.

70. C. W. Darrell.—The portrait of a lady, presumably in a garden, intently watching something not seen, is a good example of good photography, the only fault being the too pronounced foliage used as a background which tends to attract the attention from the figure. Pose, placing and trimming are all satisfactory, and combine to make a pretty little picture that might be enlarged with advantage.—N.

71. L. C. Walbridge.—If you had noticed the heading of this column, you would have sent only one instead of seven prints. We select one for notice and before "basketing" the others will hold them for postage for their return. We select the "Joshing, Ain't You?" a child in a hat much too large for him, but with an excellent expression of amusement in his face and in a decidedly natural pose. Altogether it's a charming little picture although the photography might easily have been better. The negative has not been sufficiently developed; twenty-five per cent. longer time would have enabled you to get a much better print; and even now a very slight intensification would be an improvement.—N.

72. R. C. Ancarrow.—"Portrait." The circular form of mount is the least effective of all forms or shapes and should never be selected without some good reason which does not appear here. Then, there is ample evidence that the head is too large for the length of focus of the lens; that is, it has made you to take the camera too near to the sitter; while another serious fault is the objectionable upright post growing out of the head that makes the observer wonder what it is doing there. Trimmed to the usual upright oblong form, and without the obtruding post, we should have had nothing but praise for the portrait if it had been about half or at most two-thirds of this size. In portrait work it is a good rule to observe to suppose the plate you are using to be, in its longest way, just half the length of the focus of the lens, and to keep the image well within that size. A small picture very good is much better than a large one faulty from having had to take a too near point of view. Please notice in future that we notice only one print each month; when more are sent we select the one most useful for criticism and throw the others into the waste basket.

73. R. L. Stephenson.—"A Country Road" is an excellent piece of work and had the print been satisfactory, would have been reproduced for this issue and perhaps received an award. Your print was far too dark, however. The half tones are printed to the same density as the shadows, and there is not a high light

in the picture. It is a serious mistake to print sheep, presumably nearly white, in full sunlight, to a dark chocolate brown. In addition to this fault, your carbon print broke away from its support in flakes the size of a quarter and upwards, so that the print was completely ruined. The picture itself, properly printed, would call for little criticism, as it is good in all respects. We should be glad to receive a good print, perhaps on platinum, for future publication.—F.

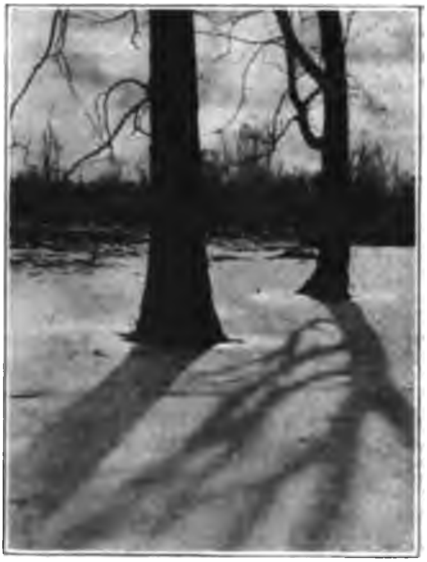
74. J. S. Henry.—"Sleepy Tom" is good in all respects except that it is too crowded. The cat fills the whole picture and leaves no margin on any side. Evidently you have tried to completely use up your plate, a false economy. The technical work is very good.—F.

75. Mrs. Alice F. Foster.—One of your prints is criticised in another place. Of "The Camel" we will say that it is a good picture, fully exposed and properly composed, but hardly as interesting as your other print. We have no fault of any kind to find with it. Prints reproduced or criticised are not returned.—F.

76. H. C. Brown.—We should say that your "Scene on Minnehoka Creek" had an exposure a little on the upper side of normal, but still not seriously so. It was then developed too long in too strong a developer. The result is a crisp and sparkling negative which would make a better print on platinum or Eastman Sepia than on the paper you have chosen. We would advocate an exposure similar to what you gave, and slow development in dilute developer, that is, tank development. This would give a thin and more harmonious negative, with a sky which would print somewhat tinted, instead of the bald white you now have. The insistent spotty glistening foliage would also come down to its proper tone. The composition is very faulty; the picture is divided into three horizontal bands with no point of interest. All that saves it from complete lack of interest is the well modulated foreground.—F.

77. J. H. Wildt.—We have an article on "Pinhole Photography" in preparation for early publication. The little photograph you send shows insufficient exposure and over development. Try again, with six or eight minutes and use dilute developer. The landscape will be very good if you will trim off the log across the foreground. Then composition, values and all will be excellent.—F.

78. B. H. Applegate.—Good technical work, but where is the interest? Not in the buildings, for only a little of each shows. Not in the willow, for it is dwarfed by the buildings. Certainly not in the cement walks or the lamp-post, or the telegraph wire. Do as good work as this on a landscape in the country, or something of interest to one who has never seen the spot.—F.



79 Otto Sellers

79. Otto Sellers.—"High Lights and Shadows" is not a good title, for the picture is all shadow. More exposure and more water in the developer would have given you detail in the trees, crisp snow and a truer sky. We do not admire the composition.—F.

OUR TABLE

Material for examination and books for review may be sent to FRANK R. FRAPRIE, 6 Beacon Street, Boston, Mass.

THE AUTOMOBILIST ABROAD, by Francis Miltoun, with many illustrations from photographs, decorations, maps and plans by Blanche McManus. Boston, L. C. Page & Co., 1907. $3.00 net.

This excellent and beautifully illustrated volume covers a field not quite touched upon by any previous book on European travel. The conditions of journeying in an automobile are so novel that the world has hardly become habituated to them as yet. Hence there are many points relating to the comfort of the traveler which each one has to learn by experience, often bitter. The author and artist in the last few years have covered many times, in their automobile, the principal roads and many of the byways of western Europe, and here set out innumerable hints on routes and methods which will be of the greatest assistance to other travelers. These range from the most general hints to specific comparisons of towns and hotels, in point of comfort, on all the principal roads of France and many in England, Belgium and other countries. An excellent addition to every traveler's library of indispensable guides.

* * *

ART AND THE CAMERA, by Anthony Guest, New York. The Macmillan Co. Price $2.00. Will be reviewed next month.

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INVESTIGATIONS ON THE THEORY OF THE PHOTOGRAPHIC PROCESS, by S. E. Sheppard and C. E. Kenneth Mees. New York, Longmans Green & Co. Will be reviewed next month.

* * *

THE CYKO MANUAL, Ansco Company, Binghamton, N. Y. The cover of this attractive little book has become familiar to our readers by its reproduction in the advertising pages. The book itself is full of information on the gaslight papers. Get one of your dealer or write direct. It will teach you something.

* * *

THE GRAFLEX CATALOGUE, from Folmer & Schwing, Rochester, N. Y., contains a number of new things, among which we note the 3-A Graflex, a most desirable size of this desirable instrument. The catalogue is embellished with many reproductions of athletic events and feats that are only possible of photography with a focal plane camera of the highest quality.

* * *

LLOYD'S PHOTOGRAPHIC ENCYCLOPEDIA for 1907 is, like its predecessors, a complete catalogue of photographic apparatus, and also includes much valuable information not usually found in catalogues. Those who are contemplating the purchase of apparatus will get a copy free from Andrew J. Lloyd & Co., 319 Washington street, Boston, Mass., if they will mention AMERICAN PHOTOGRAPHY.

* * *

"WITH THE CAMERA."—From the Illinois College of Photography we learn that after the holiday a great many students have returned to resume their work, and a large number of new pupils have been enrolled for the "Fall term." Mr. Scott of Tewkesbury, England, has joined the faculty, taking charge of the printing and finishing department.

Mr. S. Tsatsuki, who has a studio in Japan, on his way to the Jamestown Exposition called at the College and arranged for a course of instruction on his return, before returning to Japan. Miss Buffington, a student of 1904, has established herself successfully in Miles City, Mont., and, running three studios, has written for additional help.

The Students' Y. M. C. A. has opened

with great activity, adding many new members, and a fine Howard Piano.

Altogether the College continues its growth and more than maintains its usual prosperity.

* * *

THE PHOTO PICTORIALISTS of Buffalo have scored a great success with their exhibition at the Albright Gallery in Buffalo, held during September. We reproduced last month some of the most notable pictures, with criticisms. The *Buffalo Express* devotes a column and a half to individual criticism of the pictures and the same to Mr. Porterfield's exposition of the principles of the society, accompanied by a dozen magnificent half tone reproductions of enormous size, superbly printed. We congratulate the members on the well-earned recognition.

CORRESPONDENCE

Questions for answer should be sent to Frank R. Fraprie, 6 Beacon St., Boston, Mass., or to Dr. John Nicol, Tioga Centre, N. Y. Answers by mail will be made only in exceptional cases.

DEAR SIRS:—In the correspondence columns of AMERICAN PHOTOGRAPHY, I notice that you have more than once advised amateurs not to buy expensive lenses, so long as the making of snapshots was not their chief object in life. In the September number, immediately following such a statement you advise the inquirer to get the best he can.

What are we to infer? There is another inquirer who does not care to make short exposures except as conditions demand them, but who would not let the mere matter of exposure stand in the way of securing good equipment. He has recently paid quadruple price for a small sized outfit to secure a so-called high grade lens and shutter. Was this extra money thrown away? Do I merely imagine I am getting more depth and brilliancy than the R. R. lens would give? Are my hopes for detail in shadows, softness without blurring, sharpness and definition where and when wanted, more breadth and atmosphere, are these vain hopes?

Was it only a delusion that former outfits lacked illumination at the corners, or failed to cut when rising front was used?

Does speed mean nothing but track, trams and trotting horses? Is twilight photography only a dream? Must we leave our cameras at home on gray days, or take nothing but dead things in dull weather?

Obviously the best answer is to test both lenses on the same subjects under identical conditions. No doubt this has been done by some one connected with your estimable journal, and if such an one says I have squandered my money, I will be glad the outfit was no larger.

Sincerely,

A. B. COLLINS.

514 Utica Bldg., Des Moines, Iowa.

[If space would permit of our printing the letters of enquiry as well as the answers thereunto, our correspondent would probably understand what appears to him something like contradiction in the replies. But we like to make things clear to all of our readers as far as we can, and so take this opportunity of saying a few words about the questions and answers anent lenses in general.

The questions and questioners may each be divided into two classes; those who want advice as to a lens for a special purpose, and those who desire one for general or all kinds of work; those whose means are limited and those with long or full purses. Such different conditions and different requirements naturally elicit different replies or advices, which do not, as our correspondent suggests, imply contradiction. To the amateur who aims at making small negatives for enlargement or for the production of lantern slides, and to whom price is but a secondary consideration, we say, "get the best you can," especially one of the anastigmat family, with its flat field and larger working aperture, as, while it will do all that the cheaper rectilinear will do, it will do much that it cannot.

To the reader whose means are limited and wants pictures rather than the too generally under-exposed "snapshots," pictures with the objective point to which all else shall be subjective, we say the rectilinear or even the single lens, sometimes called the "old landscape lens," will do all you want, and quite as well as the most costly anastigmat. Nor can we see that there is any contradiction in the advice, indeed we might go further and say that not only is it not "all in the lens," but more in the man behind it, as he with the ***know how*** could produce as perfect a picture with one of the concavo-convex lenses from the spectacles with the aid of which we write as he could do with the most expensive anastigmat.

Keeping all this in mind, our correspondent will do well to remember that seeming contradictions in our replies are only so to those by whom the conditions are not understood.—Eds.]

Jamestown, N. Y., Aug. 16, 1907.

Editors American Photography:

Dear Sirs—If the editors of the lealing photographic magazines in the country take photography seriously, I think it is up to them to make demand for *"recognition of photography."*

The Carnegie Institute of Pittsburg refuses to permit the hanging of photographic exhibitions on its walls. It has lately turned down the Third American Salon, which has been declared by competent critics to have been the most consistent photographic exhibition ever held in America—also the Fourth Salon, which is now being assembled and will be exhibited in ten cities during the coming winter—and a number of local photographic exhibitions, held under the auspices of a society having its home within the very walls of the Institute. They have had to seek wall space elsewhere. There is not lack of room in the Institute at Pittsburg; it contains several large galleries and some half a dozen of smaller size. The walls have never been filled, even at the time of the annual exhibition of paintings. Except at Pittsburg, where it will have to be shown, as before, under unfavorable circumstances, the Federation Salon will be hung in art institutes and other public galleries.

Your notice in the current number of American Photography is anything but to the point. The Pen, Pencil and Camera Club of Pittsburg are persistent in their demand for "Recognition of Photography"—not necessarily their own exhibitions, but also others of merit.

Wishing you continued success, I am,

Respectfully,

W. E. Strayer,

Secretary of The American Federation of Photographic Societies.

ANSWERS.

E. O. Dean.—It depends on the kind of ink that had been used for titling the negatives how to remove it. Most of the commoner inks with a vegetable basis may be removed by the application of a, say, one to ten solution of oxalic acid. If this does not remove it, we know of nothing that will do so without injuring the image.

J. R. Simpson.—Your trouble is a question for a lawyer acquainted with the laws of the State, in which your correspondent lives; the matter is of too much importance to be dealt with by a layman. Our advice would not be worth the paper on which it was written.

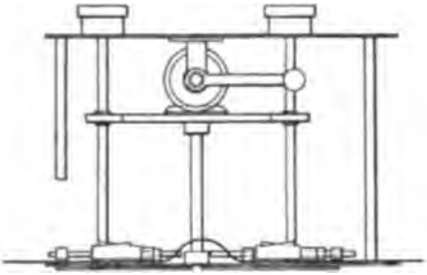
R. Gordon.—The camera about which you enquire, is really something more than a toy, and is, we think, called the "Expo." It has already found its way to this country, as we saw one a few days ago that had been bought in Philadelphia. If our memory is not at fault, its price was two dollars and fifty cents, and the spools of film twenty cents each.

RECENT PHOTOGRAPHIC PATENTS

July 30, 1907.

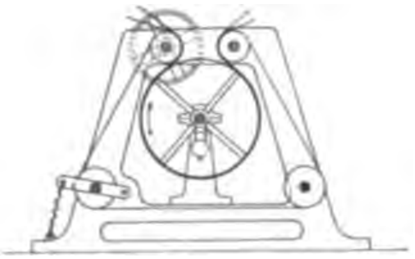
861,832. KINEMATOGRAPHIC APPARATUS. R. T. Haines, Melbourne, Australia.

The picture shows a plain view of the apparatus. On the front are two projection lenses arranged to lap over each other on the screen. A propelling crank is at the top which operates through a bevel gear one large friction drive wheel, this by friction on the periphery rotates two shafts, which in turn make a reciprocating motion through cams to a film-feeding device and shutter mechanism with a speed to feed the film of one forward enough to case a wave loop between the two shutters as shown. This surplus of film is stationary at the moment of projection and is worked forward when the picture changes. By means of the twin shutters the picture appears very uniform on the screen, with less fluctuation or flickering than when a single shutter is used.



861,907. PHOTOGRAPHIC PRINTING APPARATUS. H. V. Siim-Jensen, Copenhagen, Denmark.

This machine is designed to print from flexible film negatives. The large cylinder is transparent, having lights in the center for illuminating the negatives. The sensitized film or paper in the form of a continuous strip follows the film on the exterior of the cylinder, and is held in contact with the negative film by a series of parallel ribbon strips, slightly separated from each other, all operated over the main power rollers. This separable arrangement compensates for the unevenness of the surface of the main cylinder and avoids the working of the paper to one side, liable to occur when one backing sheet is used.



862,028. PHOTOGRAPHERS' TRIMMING WHEEL. L. F. Smith, El Paso, Ill.

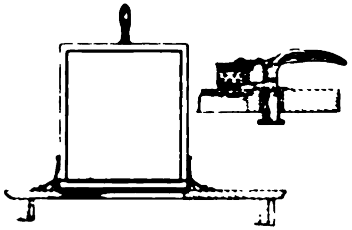
The peculiarity of this trimming wheel is that it has a laterally adjustable guide wheel or disk, on the same shaft as the cutter wheel, for varying the margin to be left between the cutting edge and the guide edge of the form around which the cutting wheel is run. There is also a special canstruction provided for removing the cutter wheel for the purpose of sharpening the edge.

August 6, 1907.

862235. PHOTOGRAPH PRINTING MACHINE. Joseph C. Calhoun, Holland, Mich.

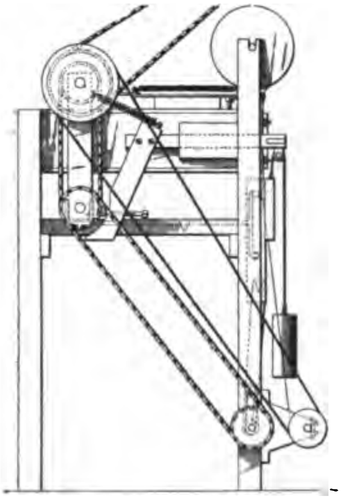
This is an improvement on another patented machine for similar purposes.

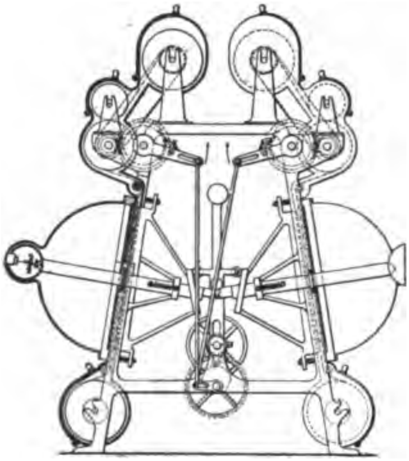
The square illustration shows the printing pad upward ready to be thrown down upon the paper against the negative with a device at the back for holding the paper from slipping on the face of the negative when the pad is pressed downward. The right hand figure shows a special construction in the handle of the pad, a latch to hold the pad down pushed by a spring. Pressure on the small lever in the handle releases the latch and allows the pad to be raised. Below the latch is an adjustable tube with a screw thread. This compensates for different thicknesses of glass negatives. By rotating the tube it is raised or lowered to suit any desired adjustment for obtaining the best pressure on the negative.



862264. PHOTOGRAPHIC PRINTING APPARATUS. Alvin H. Mallison, Arlington, N. J.

The illustration is a side elevation of the machine which shows on the left an operating pul-





ley, from which depend two separate driving belts, one a sprocket chain, the other a belt. These operate cams at the lower part of the machine for respectively opening and closing the shutter behind the negative, which is held in vertical frame, for a certain predetermined period of time, and for feeding downward the strip of sensitized paper and clamping the same against the negative, at the time of exposure, and gripping the paper to be moved forward at a uniform tension. Springs are introduced to react against the forward movement of the cam.

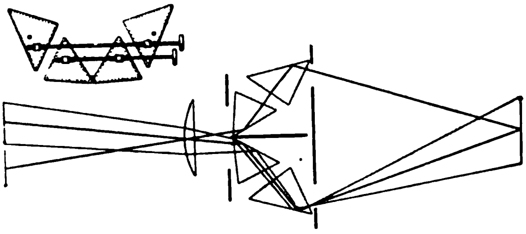
The roll on the right holds the supply of sensitized paper, which is carried downward by the negative to the receiving roller at the bottom. The weight shown on the right balances the negative carrying frame. The source of light is adjustable forward towards the negative or rearward, the proper distance to secure the best effect for each negative in conjunction with the exposure period. The machine is said to be quite automatic and to be very exact in its movement and is used mainly for printing from stereoscopic negatives.

862347. PHOTOGRAPHIC MULTIPLEX COPYING-MACHINE. Oscar Prang Schoneberg, Germany.

The machine is designed to print from a film negative. The illustration shows a frame having duplicate parts mounted on each side. The negative is fixed in a suitable frame on the side of one of the uprights of the main frame. The sensitized roll is placed in the bottom cylindrical light-tight chamber and fed upward in front of the negative over a roller at the top. A large platen presses against the sensitized paper. Behind the negative is a semi-hemispherical chamber having the source of light in its apex. A concentric flap shutter is used. By means of cam mechanism the vertical center slotted bar having rollers at each end of its cross bar, is drawn downward, causing the rollers to act upon the wedged-shaped tables forming the back of the platens, forcing them outward against the paper behind the negative. Another roller on the silding bar below at the same time forces outward two exposing rods which by their wedge-shaped ends automatically open the flap shutters in front of each light and allow the exposure to be made. On the upward movement of the center bar, springs release the platens, and close the shutters, while the rods shown by the direction of the arrows operate ratchets to feed the exposed paper upward into another case, and bring a fresh supply in front of the negative for another exposure. It possesses elements of simplicity and certainty of operation.

862354. MONOCULAR CAMERA. Calvin G. Stevens, Osborne, Kan.

The object of this invention is an arrangement of prisms with reference to a single lens by which stereopticon pictures of the same object, side by side, one seen as by the right eye and the other as seen by the left eye, are made directly from the negative for use in the stereoscope without the usual cutting, transposing and rejoining, so that when placed in the stereoscope a single steroscope picture in all its

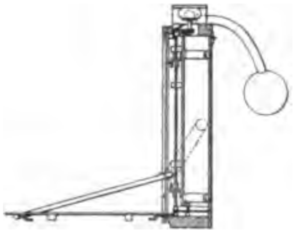


details is given. The large diagram shows the plan of the prisms with respect to the main single lens, the object being at the left and the projected image at the right, as it strikes the sensitive plate or film. The smaller figure shows the mechanism, or shafts, for changing the angle of tht different pivoted prisms to obtain the correct results on the ground glass for objects in different planes from the lens.

862362. CAMERA MAGAZINE. Otto H. Weichel, Berlin, Germany.

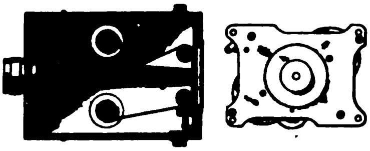
The arrangement is designed to provide for the exposure of plates for the tri-color process.

It consists of a frame attached to the rear of the camera, with a removable back for loading and a slide in the front for exposing. The illustration is a sectional side elevation or view. The plates are placed in grooves in their metal holders, the latter being projections on the lower ends, to act as trunnions working in a groove in the bottom. The tops of the holders have other projections for engaging in a releasing device. The frame is attached to the camera, the slide is drawn and the front plate, in metal holder No. 1, is exposed and is in proper focus. Springs in the back push all the metal holders forward. After exposure, the latch at the top is released by the expanding bulb, which allows the holder to fall to the front from a vertical to a horizontal position, as shown. The second and third plates are respectively exposed in the same way, then by a crank, shown in dotted lines, the bail shown in an angular position, is elevated, which throws all the holders with the exposed plates back into the frame. The slide is closed and the frame with plates is removed to the dark room for development. It is intended to facilitate duplicate exposures one after the other, on three different plates.



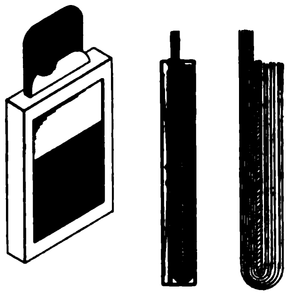
862596. PANORAMIC CAMERA. Rollin H. Trumbull, Chicago, Ill.

The illustrations show a sectional horizontal view and a view of the bottom of the camera, and portions of the operating mechanism. The camera is set on a stationary support like a tripod, and rotates around the center pivot during the exposure. It is propelled by a spring through a train of wheels, regulated by a governor. The light travels from the lens through a wedge-shaped chamber and a narrow slot to the film as it is passed from the narrow slot to the winding spool, during the period of rotation of the camera, about its center. Pressure on the release button opens the shutter and starts the rotation of the camera. Special trip devices are arranged to check or stop the rotation at any desired point, and then renew it again, until the exposure as a whole is completed.



862823. FILM-PACK. George L. Holmes, Chicago, Ill.

The three views illustrate a simple arrangement for packing separate films, yet permitting of quick and easy changing and substitution after each exposure. The right-hand view shows the system diagrammatically. The pack consists of alternate layers of light-protecting paper and sensitive film, bent around the bottom of a central septum in the holding case. On the right side the continuous black lines represent the paper. The next line, with a projection in it, shows the sensitve film above the projection attached to the paper sheet, passing below the septum and up behind, projecting above the top of the pack. The strips having the film attached have colored tabs on the end to distinguish them from the all paper protecting strip. The pack thus made up is inserted in the camera like a plateholder. The outer back paper strip is drawn up, as shown in the left-hand view, which uncovers the sensitized film. When fully drawn up the black paper is torn ofl, leaving half of it in the back. After exposure the second sheet inward from the back, with tab on it, is pulled upward, drawing the film downward at the front and upward at the back, between the two sheets of paper, completely protecting it from the light. It is only necessary then to repeat the operation for each film to make the exposures. A spring in the rear of the case keeps the paper sheets flat and of sufficient tension to allow but one sheet to be drawn upward at a time.



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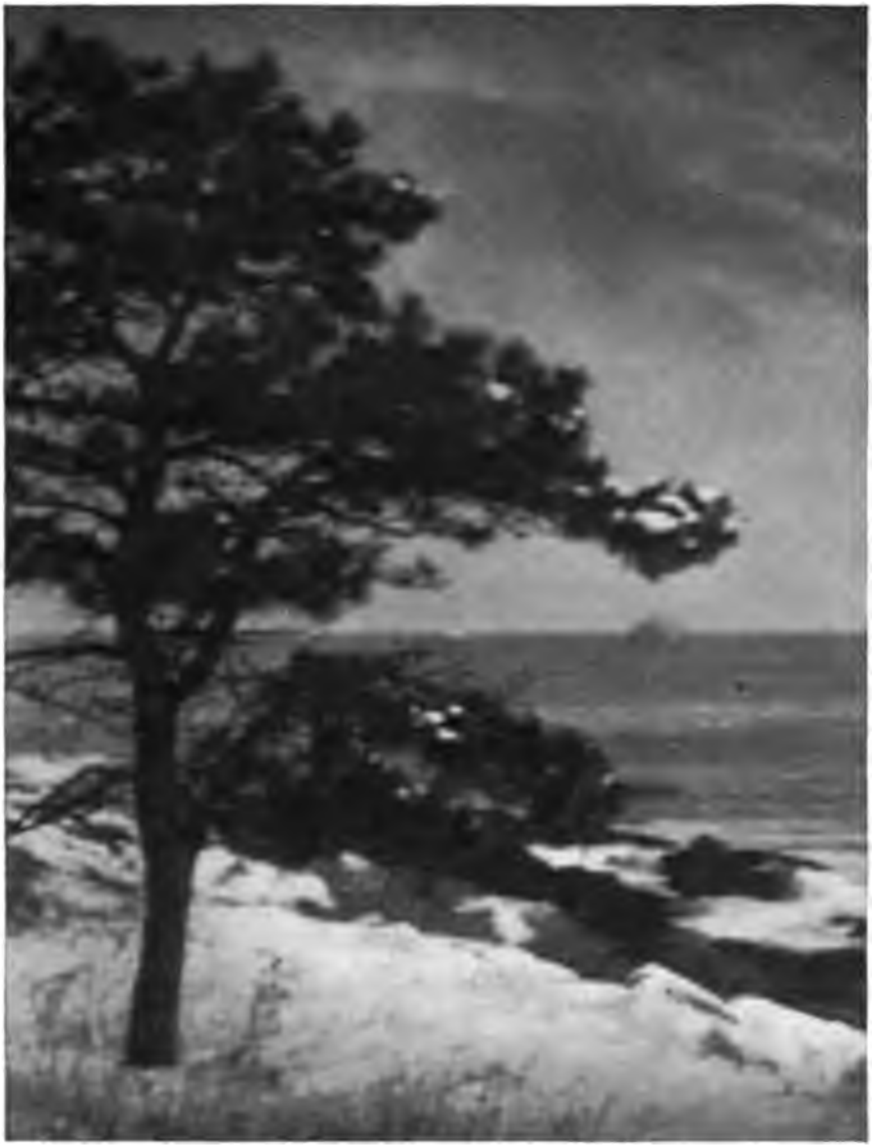

THE NORTH SHORE — CHARLES PEABODY

Old Cambridge Photographic Club

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Vol. I. NOVEMBER, 1907 No. 5

ON PHOTOGRAPHIC COMPOSITION

Roland Rood.

First comes the man who does; then the critic who constructs his philosophy as to how it was done; and last the workman who tries to do according to the rules of the critic. In this is included the whole history of "the laws of composition." Raphael and Giotto on occasions, finding that a pyramidal grouping of figures best suited their purpose, without further thought placed their figures in pyramidal arrangements, when forthwith came the critics and expounded learnedly on what they claimed were the laws which guided Raphael and Giotto in their work, but which laws in truth those painters had never heard of. Some Japanese artist, expressing himself best by dwelling on spots and areas picturesquely distributed, gave certain energetic critics an opportunity to construct their famous spot theory; and Hogarth's spiral "line of beauty" inspired thousands of art writers, who, after much profound thought and intense labor, evolved the snake school of composition still so popular among many figure men. Ruskin, however, eclipsed all other manufacturers of theories and laid down nine laws upon which good landscapes were constructed,—otherwise they were bad, he said. His source of authority was Turner's paintings, and his force as a writer so great that even to-day there are many who naïvely accept his word as *the* word, and who are oblivious of the fact that there have lived and flourished a hundred and one other more or less conflicting schools. Turner himself did not know the "laws" and once remarked to a friend that it was always with interest and astonishment that he read Ruskin and discovered what he had been thinking of at the moment of painting his pictures.

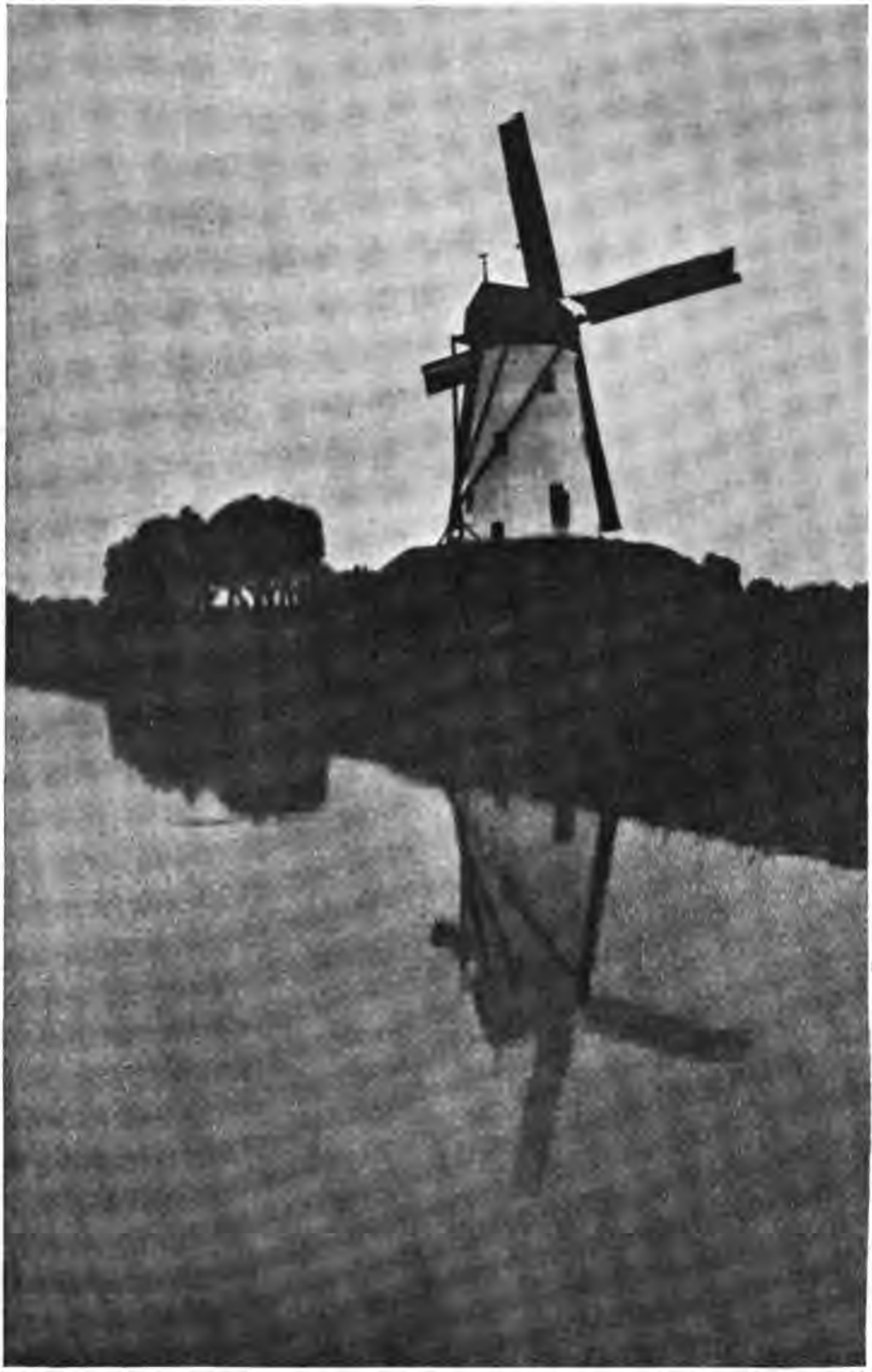
So it is with all schools of composition; each is but the unconscious and personal expression of an individual mind elaborated—and often wrongly—into a working theory by a critic who thinks he has made an amazing discovery, and any student who gives them undue credence is but handicapping his own individuality in trying to imitate that of another. It is true, I admit, that if the student follows Ruskin's rules he will get something that will in a measure suggest a Turner, and the rules of the spot and pyramid schools are also useful in the hands of a man lacking imagination, but the only true law I have ever heard,—one which places the whole subject in its proper light,—is the one formulated by Constable. It reads: "The laws which govern a picture are applicable only to that picture and to no other."

Now this is not an encouraging start to an article on composition, the reader may think; I might better have filled a page in large type with the words, "There are no laws of composition," signed my name and been done with it. Or possibly it would have been politer and more encouraging if instead of taking my stand against time-honored superstitions I had, for example, held up and extolled "the little brown tree school" so popular in England during the early part of the last century; and even now, when I think of its many ingenuities, the temptation almost overcomes me to destroy what I have written and start fresh. Why, think of it! They had things down to such a fine point in those days that in looking over an examination paper intended for the students at one of the large academies I ran across the following questions: "What are the size and dimensions of a landscape?" "And where should the little brown tree be placed?" However, there is still hope, for if I can frame no rules I will do what is better, and rarely done—give the reasons why composition should be necessary and let the reader work out his own rules.

The reason we compose is very little understood, it being generally assumed *a priori* that nature must be altered because she is awkward and that the arrangements of artists are more beautiful and make better pictures. This, like most else we believe, is false. The opposite is true. The arrangements of nature are far more beautiful than those of man, and we must compose because of the awkwardness of man's methods and mediums. When we are out-of-doors we see an endless panorama of pictures, all beautiful. The intense blue sky over the green fields spotted with the glittering white cottages is beautiful; the motion and life of the crowds on the avenues are fascinating; even when looking from the windows of a rapidly moving train every moment presents a new and complete picture; but when we try to paint or photograph any of these pictures we are instantly met with disappointment. The blue sky glares; the houses in the fields below jump out as angular white spots; the crowds on the street are lifeless; and as for the pictures seen from the express train, why! they are not even to be found when we come back to look for them, although we may have carefully noted their location in passing.

The solution to the riddle is simple. Nature makes part of her appeal to us through channels closed to the artist. First, she has an infinitely greater range of light and shade and color. Second, she is not always stationary, but on occasions moves. Third, she allows us to move when viewing her. Fourth, she is actual. It is to compensate for these four advantages nature has over him that the artist has invented composition, and as their importance cannot be overestimated, I will discuss them at some length.

First, as to range of light and shade and color. We all know how hideous any pure white spaces look in a photograph—that is, unless they are very small—and how attractive a snow-white colonial house appears in the sunshine. The bright sky outdoors does not jar us, but white paper in the low light of the studio does; and no matter how well arranged in



WINDMILL, SLUIS CANAL **JOSEPH PRINCE LOUD.**

Old Cambridge Photographic Club

ARENA AT RONDA, SPAIN Miss Percy S. Thaxter
Old Cambridge Photographic Club

line and mass such light houses and sky may be in nature, they seem to become impossible on canvas or in a photograph. The reason why great luminosity will make beautiful what ordinarily is uninteresting or objectionable is apart from the subject and also too long to enter upon here, so suffice it to say that it is in part physiological, that the human machine appears to enjoy intensely strong sensations when properly administered, and that this purely sensual enjoyment enters largely into our judgment of beauty. It therefore becomes necessary, if we wish our pictures to produce the same effect as nature, to use tricks, and through these tricks to appeal to the imagination and make it believe it sees what it does not see. These tricks we—not liking the word trick—call the laws of composition. In the special instance chosen of the clear blue sky and sunlit fields spotted with white houses, there are certain tricks we can apply which will enable us, hopeless as the case may appear, to fairly well suggest the brilliancy and dazzling qualities of sunlight without that hardness a straightforward and uncomposed photograph usually has. First, if we expose as correctly as possible and then develop in a very weak developer which allows the shadows to come up before the silver has time to pack and chalk the lights, and if we print this negative slowly to obtain the greatest range of values, we will get a print much richer and softer in tone, with the white houses and sky slightly mellowed. Second, if instead of focusing on the white houses or nearest foreground, we adjust the focus for some object a little nearer than any in the picture, or better, if we use a simple uncorrected opera glass lens instead of blurring, we will obtain a negative which will yield a print in which the lights appear to scintillate just as they do in sunshine. Third, if instead of employing the ordinary plate we use an orthochromatic plate and

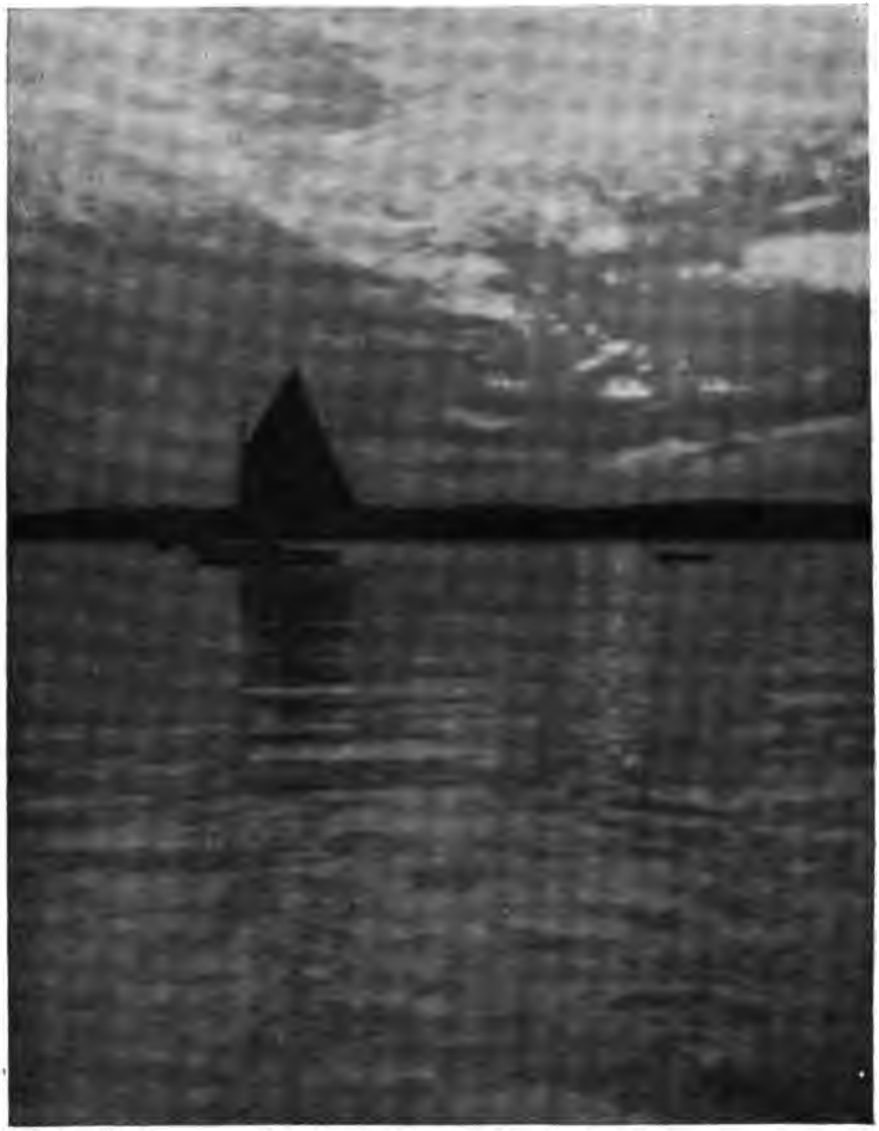
THE HEN WIFE — Old Cambridge Photographic Club — LOIS L. HOWE

screen—developing slowly—the sky will come down in value and appear truer; and if finally we employ a too powerful screen and over-correct for the sky we will have something that fairly well tells the story. Why the over-correcting and too great darkening, in other words falsifying of the sky, should so much help may at first sight not be apparent, so I will explain. A blue sky is apt to be more or less of the same value as a white sunlit house, but as blue is the color of shadow outdoors, we have unconsciously gotten into the habit of associating it with shadow and think it darker than it is. So when we artificially lower the sky in value we are merely fulfilling the demands of our preconceived judgment and satisfying our subconscious but fallacious reasoning. But what is equally important is that the over-correcting of the sky so changes the values that the faintly blurred, scintillating, delicately toned, whitish houses stand out in relief but still do not jump; they have the life they had in nature, but do not scream as in the ordinary honest photograph; and they become what they should, the principal objects in the picture. So much for the composition of the light and shade—now a few words about the line.

In the illustration chosen the white cottages are supposed to be scattered, the spaces being interspersed with such groups of trees as are generally found around country houses. Now, according to the "laws of composition" one of these cottages should be predominant, the others subordinate and echoing it. Such a predominance gives an added interest and meaning to the picture; it suggests the idea of order and proper rule where the larger one governs the rest and they do not all run helter-skelter. To bring about this predominance and subordination the rules of composition tell us that we must move this cottage in this direction, and that tree in that; that we must lighten this thing and darken that; increase the size of one house and diminish something else; and so forth. The rules also inform us that the outlines or outlying points of objects must touch curves, the character of these curves being dependent upon something which again is controlled by something else. Also, according to the laws of radiation, all these curves must start from a central point, which according to one school is to lie within the picture, and according to others, may be anywhere at all. Without doubt all these recommendations are useful (I hope the reader understood them) and a painter may be guided by them, but how the photographer is to avail himself of their sagacity is at first sight difficult to perceive. He cannot move any object in his print, much less alter its shape; nor can he easily move the trees or houses themselves; and as for stringing the trees and fields on curves—but the proposition is too silly to take seriously. The truth is simply this: That whatever value there may be in the painter's rules of composition is largely destroyed for the photographer by the confused manner of stating them,—therefore before trying to apply them let us once more go back to our first principles and perhaps we will get light.

In nature the lack of predominance of one object over another is not felt because she is actual, is there. Houses and trees have a real magnitude with which we are impressed; we can walk around and under them and feel their bulk and reality. But when we look at a picture the case is totally different. We know the picture is nothing but paint and canvas, or paper, and we feel our imagination called upon to fill in and recreate for ourselves. And here comes in the art of the artist. If he has not chosen some one object to be the larger one and repeated it in diminishing echoes, thus giving the spectator a chance to make comparisons and construct a scale of measurement, the imagination will not be appealed to. Consequently it will have no basis to work on and will refuse to believe that those small white squares and triangles of paint and paper are anything but paint and paper. The object of introducing curves and centralizing them is merely to tickle the imagination and make it more active. All of us have often been struck with the fact that when a picture is badly drawn, but beautifully colored, we usually fail to notice the lack of drawing, the reason being that the imagination, excited by the color, supplies the deficiencies. So it is in all art. If the imagination can be aroused it will fill in what is needed and think it is looking at real nature. This is why a large part of the painter's rules of composition are tricks for exciting the imagination.

Now, this being so, what is the photographer to do to hypnotize the judgment into pronouncing paper to be reality? He can, in the case of our chosen example of the houses and blue sky, besides the methods I have already pointed out, use a short-focus lens, which by giving exaggerated perspective may produce the desired preponderance; printing in gum will give a mysterious quality which will help in setting the imagination going, and a dozen other expedients will aid. But suppose that when all is done, when every resource has been used, the motif still does not compose, what then? The motif I have selected for discussion is one found in all flat



SUNSET, GLOUCESTER HARBOR — CAROLYN H. HESTON
Old Cambridge Photographic Club

countries and every painter knows how easy it is to get pictures in such low lands as Holland and Long Island. The answer is close by. There are a large number and class of motifs which are superb for painting purposes, but very difficult to photograph; all the painter has to do is to move the objects a very little, slightly alter their shape and he has a fine picture. The photographer, however, has but one resource left, and that is to walk, to use his legs and find another motif. And this brings me to the main point of my argument, *i.e.*, *The Law of the Legs.* The law of the legs is the first and most important of all the laws of photographic composition, and though sometimes touched on in photographic criticism, I feel is not given due prominence. Nine out of ten photographs made should never have been made at all—the legs should have been used instead. But, important as this law is, there is almost nothing to be said in explanation, its very wording so fully explains it. Second to the law of the legs I would put *The Law of Opportunity.* Seizing the opportune moment has made many of the very best photographs in existence. Sometimes all that is needed to make the picture is a change in the scheme of light and shade, a certain shaped cloud casting a certain shaped shadow on the ground, for example, and the good photographer is the one whose imagination tells him that it is needed and who also has the energy and patience to wait, months if necessary, until it comes. I know a photographer, one of the most famous in America, who has already waited four years for a particular combination of sky and light and people to take place on a particular part of Fifth avenue. Another four years may pass before the picture is made, and the credit most people will accord him will be, "What a lucky snap!" but the truth as I have propounded it will remain the same. The good photographer is awake, always awake, he selects, ever selects, and his true talent is *a quick appreciation of passing conditions,* whereas the painter is often unconscious of passing conditions,—he dreams and forces nature to his dream.

At first sight it would appear that all the advantages in the matter of composition are in favor of the painter. It is so much easier for him to make his picture than it is for the photographer to find his that the greater rapidity with which the latter executes would hardly seem to count; also, he can compose elaborate groups of figures, as well as create the most impossible landscapes. This is true, but on the other hand, no matter how skillful the painter is, the composition, when at all elaborate, invariably becomes so evident as frequently to be distracting; in fact, the modern movement in impressionism is as much a protest against the old false and strained schools of composition as it is an evolution in color. Where the photographer certainly has much the advantage is in obtaining transient effects; his art is one of seizing the passing moment, which is too quick and evasive for the clumsy painter; of transfixing rare effects and retaining all their freshness; of transcribing beauty in its purity—unadulterated with that tired look common to paintings long worked on. So if the pictures of the camera artist are at times somewhat less well composed, their very freshness is such a stimulus to the imagination that any other lack is not felt.

I will in conclusion give, not a rule, but a recipe which I have found of

IN A GERMAN COURTYARD ROBERT S. MORISON
Old Cambridge Photographic Club

the greatest value. Often there is a picture in a photograph which does not show as a picture because there is too much else there. To get at it, use the scissors, or preferably cutting-board, and clip freely. Make a dozen prints from the same negative; clip them into as many different sizes and shapes; mount them and compose. When the picture is found, have an enlarged negative made from that part of the original negative which contains the picture and print from that, and the next time you go to nature you will find yourself selecting a little more intelligently and will realize that the rules of photographic composition, unteachable by books and word of mouth, have begun to unfold themselves.

THE ACCURACY OF THE VIEW FINDER.—No view finder can be always accurate, and a rough approximation to the view on the screen is all the photographer is likely to get on his screen. But this is not to suggest that there is any excuse for the finder not being as accurate as it can. The center of the subject on the plate, with objects more than five or six feet away, for example, should appear in the center of the view finder. If this is so, and if the finder includes at least as wide an angle as the camera itself, it is not hard to adjust the latter to give a reasonably accurate view of what is to be got on the plate.

THE OLD CAMBRIDGE PHOTOGRAPHIC CLUB.

CHARLES PEABODY.

The adjective "Old" modifies "Cambridge," not "Club." Within the limits of that surprisingly populous suburb of Boston is a smaller, somewhat irregular concatenation of streets fondly called "Old Cambridge" by the modern residents whose eyes are turned backward. Here grows and grew Harvard, hither and hence move the feet of pious pilgrims in search of the aroma of the intellectual life, in this spot, firmly rooted, the traditions of plain living and high thinking are still to be seen, their outward and visible signs in learned brow and quite moderate apparel. In a sense, then, symbolized by its title, the Old Cambridge Photographic Club pursues an unobtrusive, virtuous and persistent course. With a score or more of members to work with and a score or less of years to work upon, the club does not compete with the large metropolitan aggregations nor with those societies whose beginnings are coeval with Daguerre.

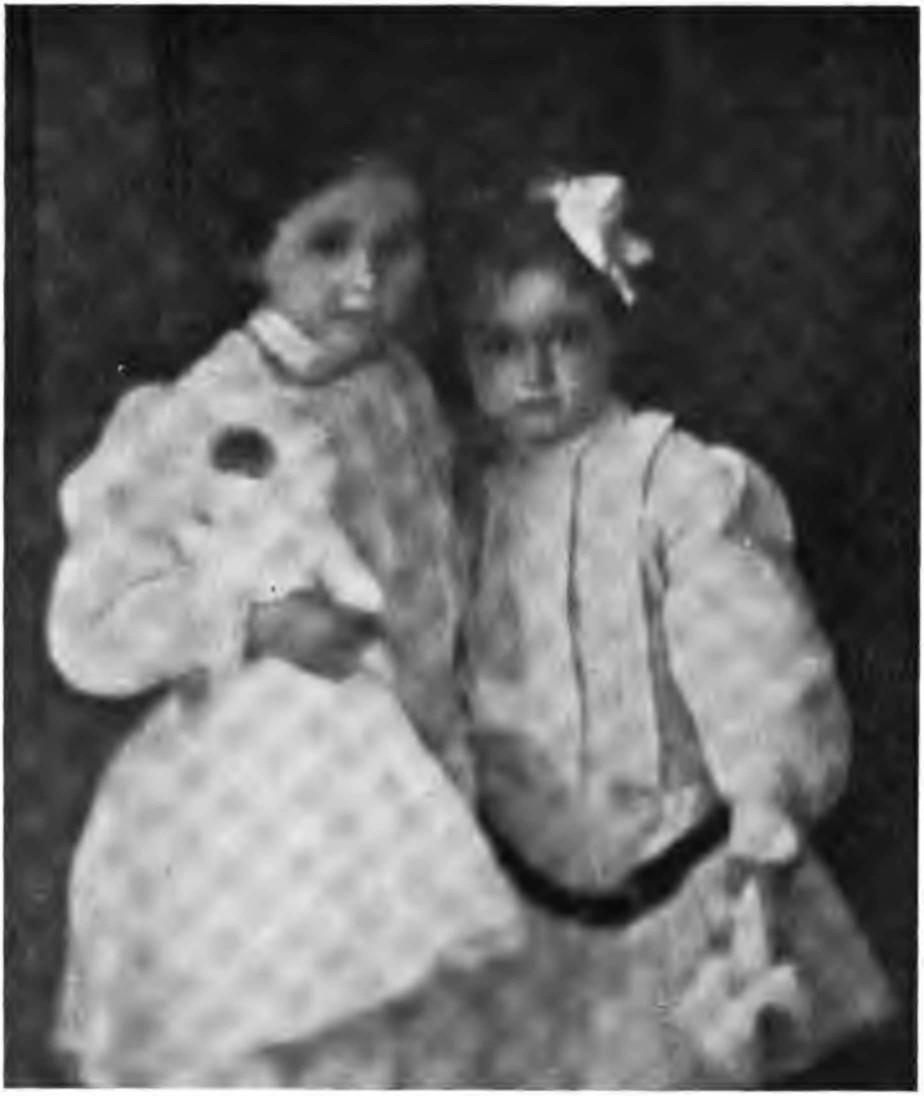
Founded at a time when the eleventh plague of Egypt, the "press the button man," was rampant, the club extricated itself from his woful tentacles and laid down the path in photography of selection. Whether in landscape or portraiture, whatever the results and however short of technical perfection the club's prints may have been, there have been none recognized as good by the club that did not bear the mark of intentional composition behind and before the camera, differing in skill and degree only from that of the painter.

Without club rooms, with such dark rooms and printing facilities as each individual may command, the club yet enforces strict rules as to the complete work being done by the member. While, to cover kodak films taken in traveling, development may be done by someone else, an enlarged negative or print must be made by the member himself, if he wishes his brethren to congratulate him on his travel-tales. In fact, few would care to trust their precious plates to the hand of an hireling professional lest they be spoiled.

In line with the principle of selection in composition, the aim first and all of the time of the club is to produce pictures. The members pay little attention to the debate as to whether they are themselves "fine" or "applied artists"; to them photography is one means of expression, portraying and evoking moods and memories and is justified of her children whose baptismal names may very well be subsequent to their bringing forth.

Once in two weeks on a Wednesday evening, in seemly attire and with expectation of moderate refreshment, the club listens with decorum to a speaker. Frequently the duty of the president to find and impress such speakers entails haste and a selection that may in the end be limited to one choice, but the guest of the evening seldom fails to interest, and the tact of the members seldom lacks that courtesy that breeds content.

The talks at the meetings show a pleasing variety of subject; one enthusiastic member of the photographic guild may expound the Graflex Cam-



THE SISTERS **ELEANOR W. DAVIS**

Old Cambridge Photographic Club

era, another may explain a three-color process; another put forth a new printing paper; a returned traveler may put to the test his skill in finding characteristic nooks and crannies, another unwittingly expose his entire dependence on Baedeker, another charm by his poetical allusions to sunrise and sunset, made possible by photographic treatment of any hour of the day.

It has also been the custom for the club to amuse itself as much as possible; members take excursions into the unknown and repeat "series of experimentations" to the wondering gaze of the bystanders; rarely a member is allowed an evening on his own work and may, if he be modest, speak an hour in the first person singular.

But the *clou* of the year's work is the competitions and exhibition; of the former there are three: landscape, "human interest" and portrait.

Some time before the date appointed the council adjure, conjure and admonish the members to be instant in labor and fruitful in results; ergo, usually a cheering number of prints are on hand for the evening. A judge, almost always a professional painter, is cajoled into studying and ranking the prints. It is worthy of note that the attitude of mind orthodox to the conventional painter becomes frequently heterodox upon close study of careful photographs.

When this judge has selected a number of prints as worthy of mention in Group I., the club allows the names of the makers to be spread upon the minutes in order. This constitutes the only award; truly a descendant in kind of the Olympian olive-branch and all other intangible but therefore desirable emoluments.

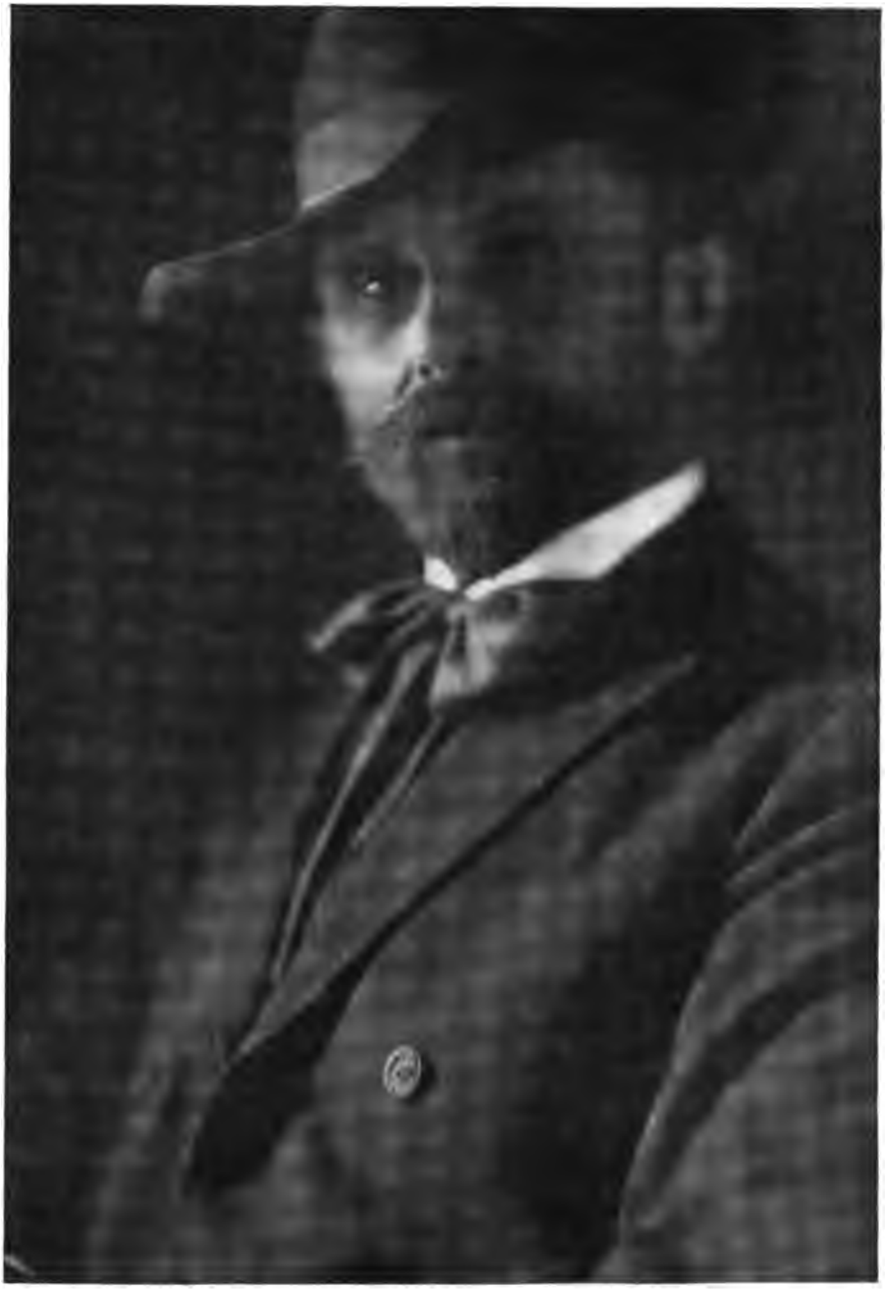
Some time after the birth of the club, the project of a public exhibition was mooted and finally the innovation was carried and inaugurated.

It is now one of the Cambridge "events," and children are promised visits to the photographs as substitutes for harmful sweets; young men may there unchaperoned escort young women, and older heads wax eloquent over the photographic days of yore and doubtful over the more or less immoral tendencies of blurring and "gum-bichromatism." Among the two hundred prints or so, perhaps twenty mentions are allowed, these again affixed by a professional artist, and great the worry and great the weal of him who attains thereto, and great the wonder and great the woe of him who must forego.

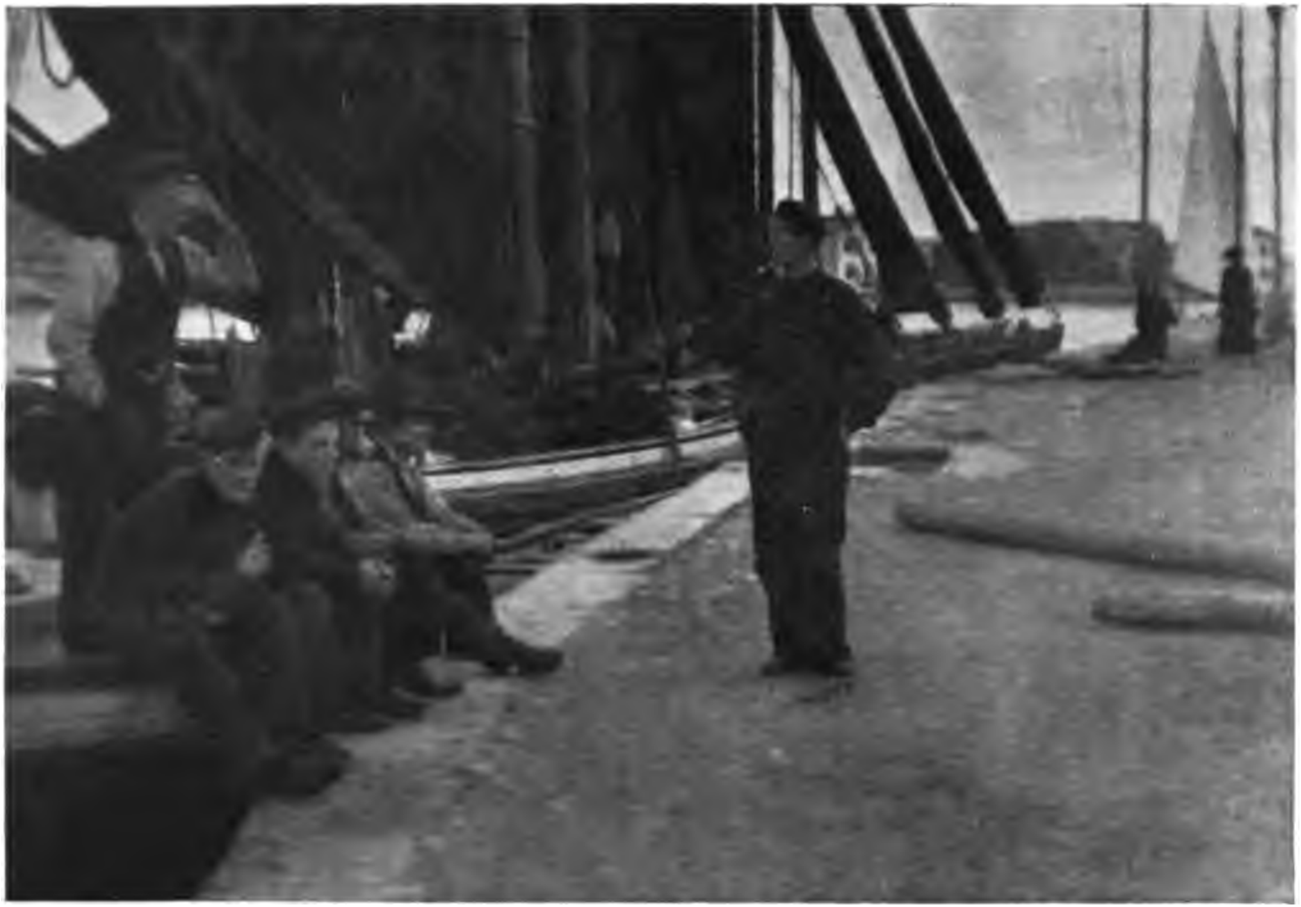
Of extraordinary doings, works of supererogation, shall we not make short mention? The Charles River from cradle to grave was meted out and reproduced by the members in a notable series of lantern slides. The club itself has sat to itself and experienced those uncomfortable sensations inseparable from self-examination. Competition in special subjects, preferably snow, and in special processes, *e. g.*, gum bichromate, are held, and occasional junkets to personally conducted exhibitions of art are of not infrequent occurrence.

May we not say, then, that the normal life of a healthy society, endeavor seasoned by opportune opposition, is the plain and simple story of the Old Cambridge Photographic Club?

There is no chemical like water for washing plates and papers.



PORTRAIT OF JAMES STEWART CAMPTON CLARISSA HOVEY



WAITING FOR WIND

Gust. Horlin, Stockholm

Second Prize, Marines

THE RAINY DAY IN TOWN

A. H. Blake

The rainy day in town may be full of personal discomforts and inconveniences, but it is also more full than ordinary of opportunities for the seeker of effect and the student of the pictorial. Rain almost immediately alters the whole aspect of the streets and river, nearly as much as it alters the aspect of the people who throng the streets.

No sooner comes the rain than the tones of roadway and pavement are, photographically, completely different, and where they before had a strong tendency to come much lighter than they ought, owing to the light streaming down on them almost vertically, now their tone causes them to tell, if anything, too weakly, and to hardly hold their own in the scheme of things. But, at the same time, they give a wholly new set of effects, and offer the charming variety of reflection.

All the streets and pavements are more or less reflecting surfaces, but the king of them all is asphalt, which, provided the rain has been sufficient to cause a streaming surface, makes possible all kinds of reflection subjects, and it will be noticed that these reflections are not exactly in correspondence with their originals, owing to the curvature of the roads for the purposes of drainage.

It may be well here to utter a word of caution as to the photographing of these same reflections, as they are somewhat deceptive, and need quite a lengthy exposure compared with what they seem to the eye to require, and, judging by one's own experience, they easily give negatives which fail to render the delicacy and luminosity which is one of their most charming features. To get the reflections in pavements and roads as patches of dull, lustreless printing is to defeat one's object, and to fail to get even a semblance of truth to nature.

We are all familiar with pictures illustrating the uses to which these reflections may be put, and the wealth of design which may be sought and found in places which before the "gracious rain" came were quite out of court for picture making; how the meanest roadway becomes a magic mirror of subtlest patterns. But it is also to the way in which the street vista is altered that I would draw attention; we all see reflections, and they are sufficiently obvious as material; but it is to the aspect of the street as a whole, altered by the rain, that we should also sometimes give attention.

I mean this: Here is a street of ordinary dull, commonplace houses, with, as Dickens says, the opposite side of the street across the way. Then comes the rain. And now the roadway, which before was but a dull, flat, hard-edged termination at right angles to the upright lines of the houses, becomes a magic mirror, and the entire scene, roadway, houses, and the sky above, all draw together and make one charming and harmonious whole, making a picture where before one could discern none. It is not only the reflections, but the marvellous pulling together, so to speak, of the whole scene that I would seek to lay stress upon.

The rain brings with it an immediate amelioration of some of the hard, crude, and commonplace features of the streets. The blue haze which frequently accompanies rain acts as a diaphanous screen to soften and conceal; subjects which we have often longed to take, but which the intrusion of some impossible detail has rendered quite out of the question, can now be got with the objectionable feature either idealized or hidden; it is worth while to don mackintosh and shooting boots, and to go over old ground in the rain and observe the number of new effects that the old hunting grounds will afford.

Sometimes, of course, even the rain will not get rid of our difficulty, in which case would it not be advisable to make a virtue of necessity, and boldly to include and even make a feature of the objectionable matter? This is a course that one has seen often in the case of some well-known pictures to be completely successful. The misty rain makes a fine screen, by which everything is refined and softened, though one is bound to confess that it is somewhat trying, when, day after day in Autumn, whether accompanied by rain or not, that same blue pall lies over everything and one longs for a good sharp hard line somewhere, or a strong, insistent ray of sunlight to check its monotony.

But if the town worker by day has reason often to bless the rain, he has even more cause to do so when he seeks the particular effects which accompany the dusk. Photography at dusk is sufficiently difficult at best, the exposure a most uncertain quantity, but the rain can only be to the good. Here is a great reflector spread all at once beneath the objects, already half lost, which he seeks to depict, here is a large access of light without the destruction of the essential features of that mystic time "betwixt the dark and the daylight" which is so full of charm.

The exposure can probably be halved at once, and what that is to the night worker in the street let that much-enduring mortal say. As in daylight, so at night, the falling drops are so many small reflectors, making the light more diffused and telling; those who have photographed in a wood in the rain will know that there is a beautiful soft light, penetrating and diffused, which gives values which are to be got at no other time and in no other way, and we believe that the same sort of thing happens at night, and that then, also, there are values which are peculiar to the time and the rain-laden atmosphere.

There are one or two practical points worth mentioning in this connection, small matters, perhaps, but comfort and efficiency are often dependent on the lesser matters. The first is the obvious one that a waterproof focusing cloth is a necessity. As the sea worker will point out the absolute necessity of such a cloth to protect the camera from the surf, so the "rainy day" worker will bear testimony to the inconvenience and the danger to the structure of the camera unless there be in use a waterproof focusing cloth, large enough to cover the apparatus well over and to hang down round the tripod legs like a petticoat when a stand camera is used. This protects not only the camera, but often the head of the worker during the examination of the subject.

A wide angle lens is a necessity for some street scenes, and also, if the pocket will stand the expense, one of the high-class modern anastigmats working, say at f-6, in order that subjects, including moving objects, should be able to be taken on days that are dark and heavy with cloud, while for general stand work there is nothing to beat the old rapid rectilinear.

A word more by way of conclusion on the delightful patterns that the rain makes on reflecting surfaces, and which can be treated as decorative studies in themselves, apart altogther from what the material is by means of which the decorative effect is obtained. These subjects are ready to hand everywhere as soon as sufficient rain has fallen to really drench the street; the greasy stage of pavement and asphalt is useless for our or any purpose. The patterns are afforded by the reflections of trees, by carts that pass over the wet surfaces, by the houses which, impossible in themselves as subjects, yet afford them in their reflected, if not in their real, forms.

If we can get over the discomforts of rainy weather we shall be amply repaid; "all is so delightfully soft and melting," as a friend said, looking out of the window at the streaming street I had just left. And I agreed with him as the water trickled down my back and into my boots while I dried my streaming hair; there are discomforts, but then it is "all very soft and melting," and repays the trouble spent upon it.

Yes! Rainy days are somewhat full of discomfort at this time of year; the camera runs risks, as well as the user, but there can be no manner of doubt that it is a fruitful time for street effects, and offers almost daily chances which may become difficult through cold in a few weeks' time.—*The Photographic News.*

AN AMIDOL-HYDROQUINONE DEVELOPER.—In the *Photo-Revue* the following developer is recommended, especially for transparencies. Two solutions are required:

A.	Sodium sulphite	10	grs.	20	g.
	Amidol	2½	grs.	5	g.
	Water	1	oz.	1,000	ccm.
B.	Hydrochinon	5	grs.	2	g.
	Sodium sulphite	75	grs.	30	g.
	Water	1	oz.	200	ccm.
To use mix—					
	Solution A	1	oz.	100	ccm.
	Solution B	34	m.	7	ccm.
	Water	1	oz.	100	ccm.

The advantage of this developer is stated to be that the image develops very slowly and has a peculiar transparency. One may possibly be permitted to question the value of the addition of the hydrochinon, which has no developing action without an alkali.

* * *

For blue-printing a strong, vigorous negative gives the best results.

Blue-printing should be carried on until the shadows assume a bronze color.

Blue-print paper can be prepared and dried ready for printing in 10 minutes.

A CARBON CATECHISM.

(Continued from page 208.)

Does the image develop itself automatically in the warm water? A correctly exposed print from a suitable negative will require but little attention, but in no case can it be said to develop automatically. The stripped print should be allowed to lie for a minute or two on the bottom of the tank or dish, and the temperature of the water must be regulated to its requirements. In the case of under-exposure the print may possibly be saved by keeping the temperature down to 80 degrees Fahrenheit or so. In the case of a correctly exposed print the water may be maintained steadily at 110 degrees Fahrenheit, whilst for an over-exposed print it may be necessary to raise the temperature to 120 degrees, or even much higher. The print is slid face upwards on to the zinc plate, and raised out of the tank, when the hot water is laved over it. In doing this irregularities may be corrected by directing the flow of water upon the darker parts. Care must be taken not to touch the image with the hand, as it is exceedingly tender, and no grit or dirt should be allowed to get into the developing water. When the image is seen to have reached the correct strength it may be rinsed in cold or tepid water to remove any traces of the loose pigment in the developing water, and at once transferred to the alum bath.

Can any material corrections be made locally in the print during development? A great deal can be done in that direction, but it is desirable that the worker should first have a fair experience in straightforward development, as it is seldom that any two of a batch of prints exposed under the same conditions are precisely alike in all respects by the time they reach the developing tank. Slight differences in the amount of water they have taken up in squeegeeing, and in the time which has been allowed to elapse between the different operations all affect their condition, and the treatment that would improve on print might ruin another. If local alterations in strength have to be effected, they should be effected whilst the print is still only partially developed. A stream of water hotter than that used in the general development is the most useful method. When broad patches have to be dealt with the stream may be directed upon the print from the spout of a kettle, but a finer spray will often prove useful.

What apparatus is necessary in providing a small spray of water? The simplest of all is the well-known wash bottle used in laboratories. For the present purpose it may consist of a tinned iron or other metal flask fitted with a cork bored for two tubes. These also should be of metal. One tube should reach down to nearly the bottom of the flask, and the portion which is outside should be bent down at an angle of about 45 degrees and be drawn or closed at the end to a very small orifice. The second tube need only pass a short way through the cork, and the upper end is to be bent to an angle of 135 degrees. The flask is filled with hot or even boiling water, and by blowing through the second tube a fine spray of water may be directed where it is required.

Is there any risk attendant upon the use of extremely hot water in developing over-exposed prints? If the water is used at a temperature over 150 degrees, there is a considerable risk of minute blisters being formed, which will enlarge and run into each other. As the gelatine expands it will be found impossible to get these blisters to adhere again to the paper without forming folds and wrinkles. They will, when dry, have a glistening appearance, as will also the smaller blisters, which might otherwise not be noticeable. The safer plan in all cases is not to heat the water above 150 degrees, but to obtain the required reduction in strength by prolonged soaking. Hasty development with very hot water tends to harsh contrasts by dissolving away the high lights, whilst slow development at a moderate temperature softens the gelatine more uniformly.

Are there any chemical methods which may be employed for the reduction of over-exposed prints? Ammonia, ammonium sulphocyanide, hypo, sodium hydrate, and *eau de javelle* (made by boiling together solutions of sodium carbonate and chloride of lime), all assist the development of over-exposed prints by softening the gelatine and rendering it more soluble. Their action is, however, somewhat capricious, and it is better not to employ any of them unless absolutely necessary.

As the gelatine has been hardened by the action of the light, why is it necessary to employ an alum bath? In the case of slightly over-exposed prints which have received prolonged development, it may not be necessary to use the alum bath, but in the case of correctly-exposed prints, which are quickly developed, there is always a trace of the yellow bichromate left in the film, and it is necessary that this should be removed. Prolonged soaking in cold water will discharge it, but at the same time a little of the less indurated gelatine will give up its pigment to the water. Later on, when the print is drying, the water which remains on the surface (the print cannot be surface dried with blotting paper) will cause the image to "bleed." That is, there will be a slight running of the color. The alum bath discharges the bichromate stain quickly, and, at the same time, by hardening the surface of the gelatine prevents "bleeding."

What are the final operations in the single transfer process? After the alum bath the prints should be rinsed for a few minutes in cold water, and hung up to dry. They ought not to be laid down in a horizontal position to dry. They may then be mounted in any way in which photographic prints are mounted, and as the gelatine is less absorbent of moisture than in some other processes, the operation presents fewer difficulties. If the print has been made on a smooth surface paper, and is required to be glossy, it may be squeegeed upon glass in the same way as is done with gelatine-chloride and bromide prints. This must, however, be done before the print has dried. Re-wetting after drying cannot be relied upon to make the prints adhere to the glass. When glossy prints are wanted, the better plan is to work by the double transfer process.

As the double transfer process gives non-reversed prints, what advantage is possessed by the single transfer process? The single transfer process is the simpler of the two; one operation, and that the most delicate, is avoided, with at the same time a certain saving of time. The reversal of the image may be overcome by exposing the negative (when it is on a glass plate) through the glass, in which case it is a reversed negative; by using film negatives, which may be printed from either side; or by making a reversed negative from the original. The principal reason, however, for using the single transfer process is that papers of all kinds, from the smoothest to the roughest, may be employed, whereas with the double transfer process the choice is practically limited to two surfaces, glossy and a matt surface obtained by the use of ground opal glass. Recently, a special double transfer paper has been introduced with an agreeable rough or woolly mat surface. Prints may also be made upon opal, ivory, canvas, wood, etc.

At what stage do the operations for the double transfer process diverge from those used in the single process? The processes diverge at the stage when the exposed tissue is placed in cold water previous to squeegeeing upon the support. In the double transfer process the tissue is mounted upon the temporary support. This is a flexible paper or thin card with a prepared surface, sold by the manufacturers of carbon tissue. Some hours before it is required for use it must be anointed with the waxing solution. The solution may be bought, or it may be made to the following formula: Five grains of pure beeswax are dissolved in one ounce of benzole, and ten grains of yellow resin in one ounce of turpentine, and the solutions are mixed. A little of this is taken on a piece of flannel, rubbed thoroughly over the surface of the support, and the surplus is polished off also with a piece of flannel. Three or four hours at least should be allowed for the solvent to evaporate, and if the supports are waxed the day before they are required, there will be less risk of the tissue lifting in parts. The operations which follow are the same as in the single process till after the developed film has been dried. The final support, which is a sheet of paper coated with gelatine, is placed for a few minutes in warm water till it becomes slimy to the touch. The temporary support, bearing the image, is placed in a dish of cold water, to which the final support is transferred; the two are brought into contact under water, and drawn out and lightly squeegeed together. They are hung up together, and when dry the final support will part from the temporary support, and the image will be found adhering to it, and, of course, is non-reversed. The surface has a moderately glossy appearance resembling P.O.P.

How may a matt surface print be produced by the double transfer process? The tissue must be developed upon a plate having a surface of the kind desired. Grained zinc plates were used at one time, or ground-glass may be used; the difficulty in either case is to judge when the print is of the exact strength required when it is transferred to white paper. Ground opal glass, being white, meets the case exactly. It must be prepared in precisely the same way as the flexible support, unless, as an alternative, it is coated with enamel collodion, as is done by professional workers. If the collodion is employed, the plate is first thoroughly cleaned and is then flowed over with the enamel collodion in the same manner as a negative is varnished, and, having been rocked to prevent the formation of lines whilst the collodion is setting, it is placed in a dish of cold water before the coating is dry. The dish should be rocked to and fro for a little while, till when the plate is taken out the water flows freely from it. If the water is repelled in places as though the plate had been greased, it must be returned to the dish for further washing. Upon this the tissue is squeegeed, and developed in the ordinary manner. When transferred to the final support the collodion will be found to have taken an impress of the surface of the plate. The method is an excellent one, but entails much more work than most photographers who require only a few prints are likely to give.

Are highly glazed prints prepared in the same manner? Plate-glass should be cleaned and talced in the same way as the ground opal, but a narrow edging of rubber dissolved in benzole must be applied to prevent the collodion from stripping. The remainder of the operations are conducted in the same way as for matt prints, but as the image is not in contact with a white surface a little more judgment is required to get the exact strengths. The smooth side of the opal glass may be used, but this is seldom quite flat, being marred with lines or streaks. The use of collodion is not absolutely necessary. The tissue may be developed on glass which has been coated with the solution of wax and resin in benzole and turpentine. Some care must be given to polishing the surface of the glass after the waxing solution, or the surface of the print will show many marks.

Is it possible to transfer the print to a rough surface paper? This has been done by some workers, but it is a troublesome operation. Usually there is no great difficulty in getting the shadow portion of the picture to adhere to the rough paper final support, but the high lights, such as the sky in a landscape, are apt to remain on the temporary support. The final support requires to have a fairly thick coating of gelatine, which must be made only slightly insoluble by the addition of a very small quantity of chrome alum. This thick coating must of necessity fill up the rugosities in the surface of the paper, or the image cannot be brought into close contact with it. The result is that when dry the effect is somewhat unpleasant. At the best the print retains something of the character of the temporary support, and the compromise between that and the original rough surface of the final support is not as a rule satisfactory.

How is combination printing carried out? It may be effected in two ways. The first is that with which all photographers are familiar. In the case of combining a sky with a landscape, the tissue is placed behind one of the negatives, preferably the landscape negative, and the position of the horizon line should be marked on the back of the tissue. If the sky portion of the negative is thin, a mask may be used to shield the light from the tissue in that part, but the mask should not be held stationary so as to form a sharp line along the horizon. By raising and lowering the mask the line of separation will be vignetted off softly. The sky negative is then substituted for the landscape, and arranged so that the horizon line falls in its proper place. The lower half of the mask must then be used to shield the tissue where the landscape has already been printed, and, as before, must be kept in motion to soften the line of junction. The correct exposures for the two negatives must be found very exactly, and in the case of carbon tissue this is a much more difficult matter than with any other printing process, since the sensitiveness is a variable quantity. Should the two exposures not absolutely agree—and in most instances it is improbable that they will—something may de done in development to mend matters. When development is nearly complete, and it is found that one section of the combined print is lighter in proportion than the other, the light half should be held uppermost and the warm water allowed to act on the lower half. At the best the process is very uncertain.

What is the other method of printing from two negatives? In this method two pieces of tissue the full size of the picture are used up for each print, but it will be found to be more economical in the end than the attempt to make both exposures upon one piece of tissue. Assuming once again that a sky has to be combined with a landscape, the landscape print is first made. As before, if the sky portion is thin it may be masked, care being taken to vignette the horizon line. The print is finished in the ordinary way, leaving the sky a blank, but the exposure should have been a trifle full in order that development may be carried out far enough to remove all the soluble gelatine. When dry, the print should be exposed to strong light, so that the gelatine may be hardened as much as possible. A second piece of tissue is then exposed beneath the sky negative, using the mask as before to shield the lower half; but for reasons which will be apparent later on, the sky ought to overlap the horizon line of the landscape. The tissue should be distinctly under-exposed. It is then squeegeed on top of the landscape, and the top edge should be marked while it is still in the frame to avoid the risk of turning it upside down. There is no risk during development of disturbing the landscape part of the image, but it is well that the sky should be a little under-exposed to facilitate the removal of the part which overlaps the landscape.

How is the removal of this overlapping part effected? When the sky has been developed as far as is required, the gelatine should still be very soluble, which would not be the case had it been fully exposed. The print may then be laid flat in a dish of cold water, and a camel-hair brush applied with gentle stabbing action to the parts which overlap upon the landscape. As the brush is dipped into the water the hairs will spread out, and with a little practice it is possible to remove every particle of gelatine and pigment from the parts where it is not required without leaving marks. The same thing may be done with the wash-bottle arrangement described in a previous section, or with one of the spray bottles used by artists to spray fixative solution over a charcoal drawing.

As the sky frequently occupies but a small portion of the print, would it not be possible to use half a sheet of tissue for the sky print? That is not practicable, since it will be found that the edge of the piece of tissue has become insoluble by exposure to the air and moisture, and that it will be impossible to get rid of the ragged line which it leaves on the paper. Even if the edge is trimmed immediately before squeegeeing it will be difficult to avoid a hard line. The better plan is to use a full-sized sheet and to wash away the part not acted upon by light. Should a faint tint be left it will not be visible over the darker landscape.

(To be concluded.)

A weak solution of ferric chloride (2 grs. to the oz.) will effect a slight intensification of blue-prints.

THE USE OF BOLTING SILK.

F. J. Mortimer.

From time to time certain methods for modifying the direct production of photographic prints are advocated and extensively employed by pictorial workers. These methods, after having enjoyed a vogue for a period, appear to die of satiation. Many a good process or method of print production has been worked to death in its infancy; sometimes by misapplication, which has brought it into disrepute. A typical instance is presented in the case of bolting silk. We are not precisely certain who first employed this material for photographic purposes in the production of bromide enlargements, but there is no doubt that during the past six or seven years it has come into recognized use for securing an agreeable amount of diffusion when making enlargements.

During the year or two following its general application for this purpose it was no uncommon thing to find at many of the exhibitions as many as 50 per cent. of the exhibits bearing evidence of having been printed through bolting silk.

This state of things could, of course, have but one result. Bolting silk as an aid to pictorial effect became overdone, and the constant appearance of every variety of subject treated in this manner became nauseous. Now, the appearance of a print produced through bolting silk is the exception rather than the rule at exhibitions.

The fact that a great number of individuals indulged in this practice about the same time, and, in many cases, entirely misapplied the new power placed in their hands, does not, however, make the use of bolting silk bad or unnecessary, as in many cases an undoubted gain in effect is brought about by its use.

Bolting silk or bolting cloth (more correctly spelt "boulting") is employed in the preparation of flour, and a "bolter" is a machine well known in the milling trade for sifting bran from flour.

In appearance, bolting silk resembles a very fine, somewhat stiff, gauze of perfectly even mesh and texture. In application its effect is to produce a certain softness or "fuzziness," due to the breaking up of the hard lines and masses of shadows that would otherwise be produced by direct enlargement. The silk is interposed between the enlarged lantern and the paper. During the inception of the idea it was also used in contact printing; very likely the cause of its downfall, as in this case or when the silk is placed so close to the bromide enlargement that the lines of the mesh are clearly imprinted on the paper, the effect of a coarse half-tone screen is obtained, which is not altogether favorable to the most satisfactory results.

To a great many amateur photographers at the present time the application of bolting silk seems to be somewhat of a mysterious operation. The silk itself is now easily obtainable from most of the wholesale photographic supply stores, and is made in two varieties or degrees of fineness.

The very fine variety will probably be found the most generally useful, and can be obtained up to about a yard in width.

The effect obtainable with bolting silk varies according to its position in relation to the negative and paper on which the enlargement is being made, and it will be found that it is most easily employed when enlargements are made by projection rather than in an enlarging camera.

For general use it will be found advisable to procure a fairly large piece of silk, larger than the biggest enlargement usually attempted, and have it stretched on a light wooden frame.

A light picture-frame will answer, but it will probably pay best to have a proper frame made by a carpenter. This will cost very little, and the silk is then always ready for use on the enlarging easel.

The frame should be made of well-seasoned wood about an inch square in section. This should have mortised corners, and be further braced with metal angle pieces.

The silk should be attached to one side of this frame with library paste or strong glue, and stretched quite taut. Care should be taken that no creases or glue marks get on the surface of the silk, or unpleasant patches will arise when printing through. If the silk can be removed it can always be washed and dried ready for use again, but if too securely attached to the frame it can be lightly sponged to remove any adherent foreign matter. It will dry quite taut again.

When the silk is securely glued to the frame four strips of stout cardboard, an inch wide, should be placed over the glued edges and fixed down with drawing pins. This still further secures the silk, and also serves as a standard check when the frame is placed in contact with the enlargement.

The silk, fixed on its frame, can now be handled and used with the greatest ease. The best position in which it can be employed is about ⅛ to ½-inch away from the surface of the enlargement. The nearer the silk is to the print the more obvious the grain becomes. The further off it is, the greater the diffusion. If ⅛-inch is decided upon as giving the best effect, the pieces of stout cardboard pinned on the silk side of the frame will probably give the right distance by bringing this side of the frame hard up against the print.

Other distances up to one inch can be obtained by pinning or tacking little slices of cork or card on the corner of the frame, so as to bring it the correct distance from the enlargement. At an inch distance the frame itself can be reversed, as it is presumed the thickness of the wood is an inch.

The enlargement is focused first in the ordinary manner, and the frame can be held in position during the exposure by the use of long dark-room pins driven into the enlarging board at the top and bottom of the frame, or rubber bands can be attached to hooks on the frame and easel to hold the frame in position.

There are several other positions in which bolting silk can be employed. First, in contact with the negative, which can be done by sandwiching a piece of the silk between the film side of the negative and a piece of plain glass. The mesh of the silk is then enlarged with the image on the negative. Second, to keep the silk a short distance from the negative by stretching it over a piece of plain glass held in another carrier, say, about ¼-inch from the negative.

The enlarged "grain" of the silk is thus put out of focus, and gives a "canvassy" appearance to the enlargement. Third, in contact with the paper itself. In this case the effect is generally unpleasant, and is never quite successful.

The best effects are undoubtedly obtained by keeping the silk from 1/8 inch to one inch from the print, and a pleasing diffusion, leaving the sharpest details of the original quite undisturbed, is thus obtained. The effect of grain or texture can be entirely removed by gently moving the frame during the exposure.

In this case the diffusion appears to be greater, yet an inspection will reveal the finest details intact, although weak.

Another excellent application of the silk is to make half the exposure with the frame in position, and the remainder in the ordinary way.

The use of bolting silk necessarily increases the exposure; this varies with the result it is desired to obtain, the fineness of the mesh, and the distance from the print. Generally speaking, however, about 25 per cent. increase is a normal approximation, but the exact amount can easily be obtained by trial.

Diffusion of another sort is obtained by stretching the silk over the front of the lens during exposure, but in any case, unlike the diffusions caused by throwing the negative out of focus, the methods indicated above do not destroy the strong lines of the original, and will retain fully the contrast of light and shade, not vignetting one into the other.

The method should not be used for small enlargements—8 x 10, or under—unless the composition is very broad, consisting chiefly of masses of light and dark, and, lastly, do not use bolting silk with glossy papers. The rougher the paper is the better the characteristic effect of semi-diffusion will be rendered.—*The Photographic News.*

Enlarged Negatives.—In a lecture before the North Middlesex Photographic Society, Charles Beadle said that in making enlarged negatives it was as easy to obtain the same scale of gradation in the result as it was in the smaller negative by employing a transparency prepared by the carbon process. In practice he used a daylight apparatus for making the enlargement, and prepared a transparency by the carbon process upon a piece of opal glass, the film being upon the smooth side. This left the rougher side available for hand work, which could be done without difficulty with pencil and stump, the diffusion obtained by the thickness of the glass and its opacity atoning for any roughness in the pencilling. By this method clouds could be easily added to the enlarged negative. The lecturer also recommended the use of a meter for gauging the strength of the light, and the employment of the factorial method of development, as by this means further copies of any picture could be obtained with certainty, and with a minimum of trouble from the recorded details. Clouds could also be added to the enlarged negative when desired by hand-work upon tracing paper stretched upon the back of the negative. By slightly damping the paper and gumming its edges to the plate it would be tightly stretched when dry and ready for working upon.

THE WALRUS ON OIL-PRINTING.

As everybody who is anybody has something to say just now about the oil-printing process, I suppose I must put in my spoke as well. Not that I know anything whatever about it, but then neither do the vast majority of those who are giving tongue on the matter. The simple fact is that this particular process has come to the front with a rush, and so all photographers find it necessary to muster up as learned a look as they can manage, and discourse glibly about dabbing and hopping, personal control, pigment, tone values, skew brushes, M. Demachy, potassium bichromate, and so on, interspersing their remarks during these latter weeks with unpublished observations on the climate of our favored isle.

Whatever may be said for and against this process, it has one merit, that, in my humble opinion, puts it clean up at the top of the list of all the photographic processes there be. It is that the nature of the print makes it impossible for anyone to carry specimens about in his pockets. There are not many oil printers who get specimens at all; and of the few prints that are obtained after strenuous efforts occupying many laborious days, only about one in a million is fit to show to anybody without running the risk of being charged with manslaughter. And, finally, this one per million is such a delicate affair that it has to be put under glass directly it is dry. If it ever does dry.

Some will at once yell out, "But look at Mons. Demachy's oil prints." Well, I have looked at them, and hope to look at them again. But I am not talking about Mons. Demachy. I am talking about oil-printing photographers. Mons. Demachy is not a photographer—he is a genius. Give him some pots of paint—beg pardon, pigment—and a field gun, and he would shoot a gorgeous picture on to a white target ten miles away, and pick out some saucy little high lights afterwards with a rifle. In fact, so highly do I think of this gentleman's ability that should he ever be prompted to send me a specimen of his work I shall have no hesitation in accepting it. The *"entente cordiale"* (whatever that is) must be encouraged at all costs.

There is one genial native of our own land whom I rather suspect of being capable of absolutely finishing an oil print, and that is Dr. Evershed. He has quite a number of prints which he says he made himself, but they are suspiciously good. I also saw him actually commence one, but he did not finish it. He slogged away at it till within half an hour of closing time, and as that was running it dangerously close his audience disappeared. Otherwise I really believe he would have romped home at last on that print. It was a poor, soppy-looking splodge of a thing for about twenty minutes, but he pecked away nobly at it with a brush until it began to assume the appearance of a particularly choice section of the Elysian fields, and unfinished as it was, it was a better picture than many I have seen on the line at the Academy.

Dr. Evershed knows all there is to know about oil printing, and more besides. He told us all the different things to get in order to do the work, and then explained how we could dispense with them all. It is quite surprising what a number of things there are that you can do without in making oil prints. Some people say you want an actinometer to time the printing

You don't. Dr. Evershed does without one. He puts the print out when he starts shaving and takes it in when he has finished. One shave, one print. If the negative is dense he cuts himself and leaves the print out while he plasters himself up; if it is a thin negative he only shaves half his face. This is an ingenious method, but it has its drawbacks. For instance, if you want to make a dozen prints straight away you have to be a mighty quick whisker grower. And again, it won't work in the case of ladies. Certainly they might vary it by printing for as long as it took them to do their hair. But that would mean reversal of the image.

This is not the only example of his ingenuity which Dr. Evershed displayed. He has a pair of forceps, some pointed sticks, and an assortment of needles in wooden handles. All these weapons are designed for removing hairs and fluff from the print; and to provide the hair and fluff for removal he wears a specially woolly coat so that as he wags his arm up and down in dabbing on the pigment bits of wool fly off on to the print. Few people would have thought of this.

He also pointed out that motor petrol is one of the very finest things not to use for cleaning the brushes. The proper way to entice the color from a brush is to wet the bristles, rub them on a piece of soap, and then work up a lather in the palm of the hand. You thus get a handful of painty lather which you can easily wipe off on that part of your clothing which, in calm weather, is covered by the coat tails. Not only do you thus clean the brush, but a considerable part of one hand as well. It follows that by using alternate hands the daily labor of ablution may be considerably lessened. Dr. Evershed has also thought out another ingenious improvement on the ordinary method of procedure. Most workers after laboriously and manfully working to pile on the pigment proceed to take it off again wherever it is not required. Dr. Evershed's plan is to refrain from putting it on at all in these parts. This is really a splendid idea, because no one who has not seen a man oil-printing can imagine what a time it takes to put on even the small amount of pigment that *is* required. Let no one think that an oil print is made in a hurry. After exposing the paper under a negative (if you find it necessary to use a negative) you wash the print for some hours. Or some days if you like. Then you dry it. Or keep it wet. Then stand by while it soaks for about several days. At this stage you may begin to put in a few hours dabbing on paint with a brush. When you are sick of this leave off and put the print away. Having embrocated your arm for a week or two you are enabled to have another turn at dabbing, having previously soaked the print again for a week or so. In this way you at last reach the stage where it is useless, if not impossible, to attempt to get any more pigment on to the print. You then take a soft rag, moisten it in turpentine, and rub all the color off again. This restores the print to its original condition, and you can then make a fair start once more. It is emphatically a process for the young. I say this because only a person in the first blush of youth has any chance of living long enough to get a print finished.

Oil-printing is a process for the young in another sense. You have only to watch someone making an oil print to be led to make the classic remark. dear to the advertiser, "A child can do it." That's just the sort of thing it looks. And I reckon it will break more hearts than any other photographic process ever invented. If you find one of your photographic friends going about with a ghastly haggard face, with his garments smelling of turpentine, and dry sepia soapsuds on his coat tails, you may safely plank down your last dollar that he is trying to make an oil print. You can't do anything for him. There is no remedy. He is doomed.—*Photography.*

GRAIN IN COPYING.—It is quite a mistake, though a common one, to suppose that a photograph of a print, a copy, must be at first glance markedly inferior to a direct print from the negative, and will be coarse and granular in appearance. A copy is never quite so good as a direct print, but there is no need for it to be a great deal worse, and in the matter of grain the difference may be very slight indeed. In fact, it is only in the falsity of its tones (a falsity inseparable from the process if the print copied is itself to be satisfactory to the eye, and not made specially to be rephotographed) that the copy should suffer. The cause for most of the grain which shows in copied prints is to be found in the improper lighting of the print that is to be copied. Instructions generally direct the lighting to be uniform on both sides, and they are sound enough as far as they go. But they overlook the difficulty of securing an even lighting, and the danger that, instead of doing away with grain, the result of using a strong light on each side of the print may be merely to make each little hillock on the paper surface cast two shadows instead of one. The photographer who has much copying to do will be wise if he turns his attention to lighting as far as possible from the front, getting even rather than powerful illumination, and, as far as possible, doing away with side lighting altogether. A few weeks ago we were present when some important documents on a very coarse-grained paper were photographed for a purpose where grain was most undesirable, and we were much interested in the means adopted by the photographer to get rid of it, means which were surprisingly effective. The work was done at night, and the document to be photographed was placed at the end of a tunnel of cardboard blackened inside, which was generally used to keep off extraneous light when negatives were being copied. The end of the tunnel was covered with a piece of tissue paper, in which was a circular hole the size of the camera lens, which was inserted there. The illumination was magnesium ribbon, burnt all around the lens. In this way the lighting was almost exactly vertical, and it was hard to realize that so smooth and grainless a print as was obtained could by any possibility be made from so coarse an original. The plan need not be followed in its entirety, but a shield of cardboard or other similar material so placed that the great bulk of the light falling on the copy must fall almost direct should be of great service in avoiding grain.—*Photography.*

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THE WASHING OF PRINTS is hastened very much by squeegeeing them face downwards on glass after each change of water.

FIGURES IN NIGHT PHOTOGRAPHY.

A. W. H. Weston.

The photographing of illuminations by night presents certain difficulties, which perhaps gives to this class of work a fascination of its own. To simply give a prolonged exposure to the lights alone is seldom sufficient; something more is wanted than a design in black and white, however artistic that may be. There is wanted a suggestion of detail in the shadows; perhaps a figure or two to take away that deserted appearance so common to night photographs of street scenes.

Of course, to secure this will require more trouble and care than an ordinary photograph of the same scene would demand.

The method I am about to describe requires two exposures, and two plates, for each negative, but the results obtainable are well worth this extra trouble and expense.

First, then, an instantaneous exposure is made on the scene by daylight to obtain the figures and detail, preferably choosing a day without sunshine. The figures should be in suitable positions, none coming between the camera and any portion of the view that will be illuminated in the night photograph, or the lights will show through, with rather a ghostly effect.

It is necessary that this daylight negative should be reversed as regards right and left, therefore the plate is exposed glass side towards the lens, the difference in focus being allowed for by racking the camera in 1-16 of an inch.

The point of view from which this negative is taken must be carefully noted, so that the second exposure may be made within a few inches of the first. When practical a chalk-mark should be made on the ground, or, failing that, the relative positions of surrounding buildings, etc., must be carefully noted, and perhaps a rough diagram made in one's notebook. A chalk-mark is not likely to be rubbed out if the two exposures are made the same day, and it makes a sure and simple guide to the exact position.

About 1-16 to 1-40 of a second exposure should be given for the daylight negative. This may mean bad under-exposure for ordinary purposes, but it is sufficient for the kind of negative wanted. Plenty of alkali should be used in the developer, and the resulting negative should be weak and flat, all the high lights being supplied by the night negative.

The plates for the night exposure are used film side to the lens, and should be backed. It is impossible to say what exposure should be given, usually something between ten minutes and three-quarters of an hour. The camera is placed at the same view-point, and at the same height from the ground as before. The focus for distant objects should be marked on the camera base beforehand, and the instrument used at that for both negatives, to avoid any difference in the size of the two images, of course racking in 1-16 of an inch for the first negative.

A piece of card is sometimes useful to shield the lens from any passing lights, and any strong lights during part of the exposure.

The two negatives being completed, are dried and dusted, and placed film to film in exact superposition; place just a trace of thick gum on the corners of each negative, and laying one film upon a piece of white card, lower the other as nearly as possible into its right position, then viewing them by a strong transmitted light they can be moved into exact superposition before the gum sets.

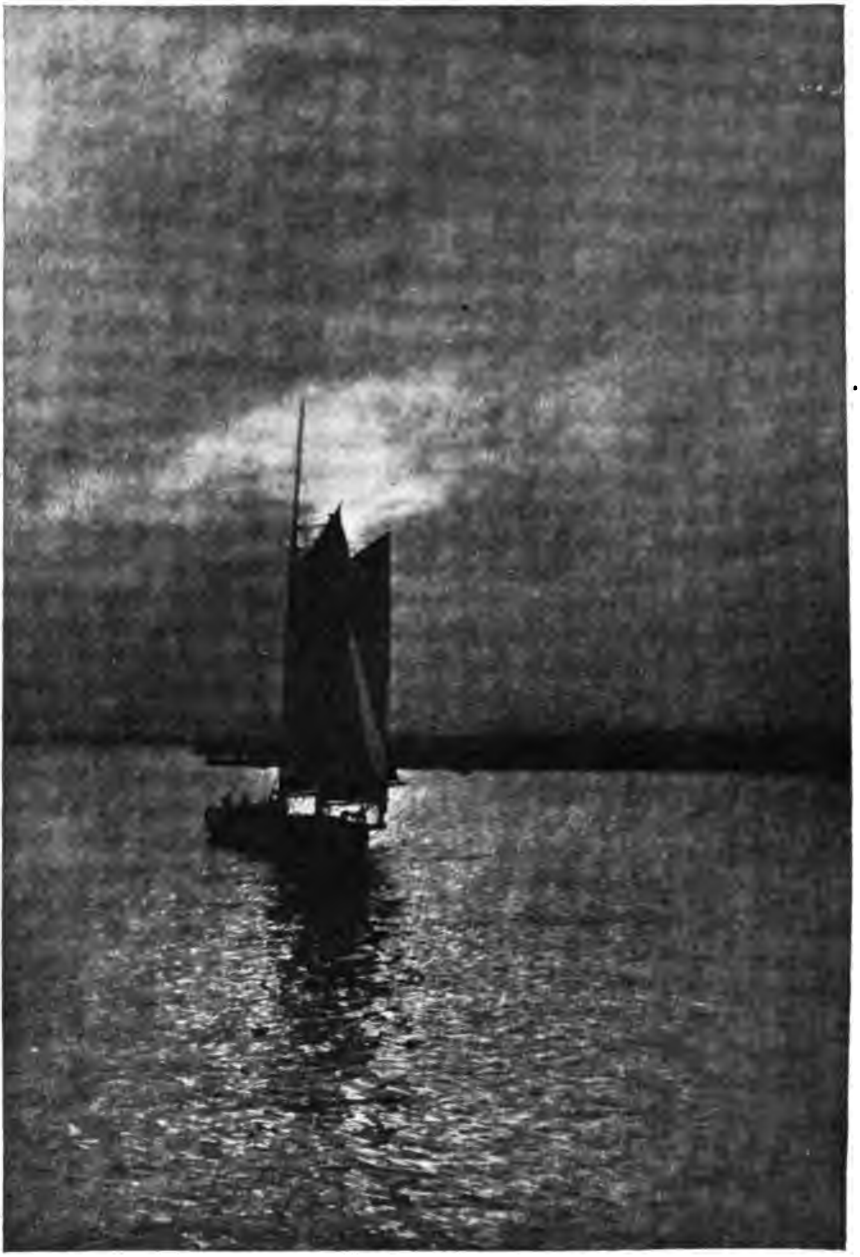
The composite negative is then complete. It may be enlarged to any size in the usual way, or printed direct on to bromide paper, placing the printing frame at a good distance from the light to avoid fuzziness. At three or four feet from the light the print will be quite sharp enough for any ordinary subject.

That the negative cannot be printed on P.O.P., except in very strong sunlight, is no great disadvantage, as bromide paper suits this class of work by far the best. But to those who use films, there is no restriction to any one printing process, for if a film is used for either of the two negatives, its thinness will enable the composition to be printed by contact in any process.

I have pointed out the importance of getting the figures in position, in the daylight negative, where they will not obstruct any light or reflection in the night negative.

But should any undesirable reflections occur, recourse will have to be made to local reduction with alcohol, and while hand-work on the negative is not to be recommended, the nature of the night negative makes it an easy matter to rub out any such reflections.—*The Photographic News.*

THE PERMANENCE OF SILVER PRINTS.—Dr. Georg Hauberrisser treats of this subject in the *Wiener Mitteilungen,* and his conclusions are as follows: (1) "Almost all prints which have been toned and fixed in separate baths will last for years without any falling off." It may, however, be remarked that this is scarcely a high ideal of permanency, although in advance of the fugitiveness of such prints as fade perceptibly during the few weeks that an exhibition may be open. (2) "Prints on most of the commercial gelatine papers, toned and fixed in a combined bath, lasted satisfactorily." (3) "Collodio-chloride prints toned and fixed in the combined bath were notably more fugitive than those mentioned under heading No. 2." (4) "Prints on gelatine paper, merely fixed, lasted satisfactorily." Evidently Dr. Hauberrisser's ideal of lastingness is not a very exalted one, and his remarks must be read as a whole and in reference to his heading No. 1. Speaking generally, silver prints cannot be considered permanent in the best sense of the word, although a few silver prints fifty years old are in good condition. The favorable conditions, judging from these old prints and the records relating to them, are separate toning and fixing, the use of abundance of fresh "hypo" solution in fixing and a second fresh "hypo" bath to ensure complete fixation. Finally, thorough washing. Notwithstanding the fact of a few silver prints of fifty years ago being still good, those who wish to produce lasting prints should adopt platinotype or carbon, this latter being available either as ordinary carbon, ozotype, or gumbichromate with carbon as the chief constituent of the pigment. Very few developed silver prints issued with photographic annuals of ten years ago or more, are now in passable condition.



WITH WIND AND MOON ASTERN Thos. Elsum

First Prize, Marines

ON MAKING UP SOLUTIONS.

H. W. RICHARDSON.

What is easier than to say "and dissolve in water to make ten ounces," or twenty or forty, as the case may be? Yet in making up most of the solutions that we use in photography it is not sufficient guide to anyone who is unfamiliar with the particular substances employed, and it is with that in view that I have thought a few words on the subject of making up solutions may be of value.

One of the first phases that needs explanation is "Water to." In some formulæ the quantity of water to be taken is stated thus, "Water, ten ounces." In others, the expression "Water to ten ounces" is employed. The two do not mean the same thing, although I do not think that in a single instance in photographic procedure it matters whether the water is the measured amount stated or whether the solution is made up to the total bulk given. For this latter is the meaning of "water to." We are apt to overlook the fact that when solids are dissolved in water, while they do not, as a rule, increase the bulk of the water to the extent of their own bulk, they do increase it considerably. The expression "water to" any amount means, then, that dissolving the solids in a quantity of water a little less than the amount stated we add more water after they are dissolved to bring the total bulk of liquid to the amount given.

How many readers get puzzled over the formulæ in which "parts" figure. How much is a "part"? I have been asked, and how can we make up such a formula as—hypo, 5 parts; alum, 3 parts; water, 40 parts. It is easily answered. Parts, unless otherwise stated, are parts by weight. As an ounce weight of water is a fluid ounce, or at least is near enough to a fluid ounce for the two to be used indiscriminately, it is only necessary in making up a formula such as this to weigh out the hypo and alum in ounces and to measure the water. If we do not want forty ounces we can use less by taking a half or a quarter of the total quantity, thus—hypo, 5 ounces; alum, 3 ounces; water, 40 ounces; or—hypo, 2½ ounces; alum, 1½ ounces; water, 20 ounces; or—hypo, 1¼ ounces; alum, ¾ ounce; water, 10 ounces.

The ounces referred to should be apothecaries' ounces of 480 grains; these are the ounces indicated by the weights sold with scales for photographer's use, unless the weights are marked "oz. avoir.," when they are avoirdupois ounces of 437½ grains. In some formulæ the ounces are distinctly described as avoirdupois ounces. The difference between the two kinds of ounces, although too large to be altogether ignored, is not, as a rule, important in formulæ that are given in ounces at all, except to this extent, that any one user of the formula should always use the same ounce in making it up, otherwise his solutions at one time may appear to work much more quickly than at another. The difference between the two, in any of the baths in ordinary photography, is not going to make a success into a failure, but needless laxity should be avoided.

One of the first solutions the photographer has to make up is a hypo bath. Now hypo is a very easy salt to dissolve, especially in hot water, and we can weigh out to quantity necessary, put it in a jug, and pour boiling

MISTY MORNING J. H. FIELD

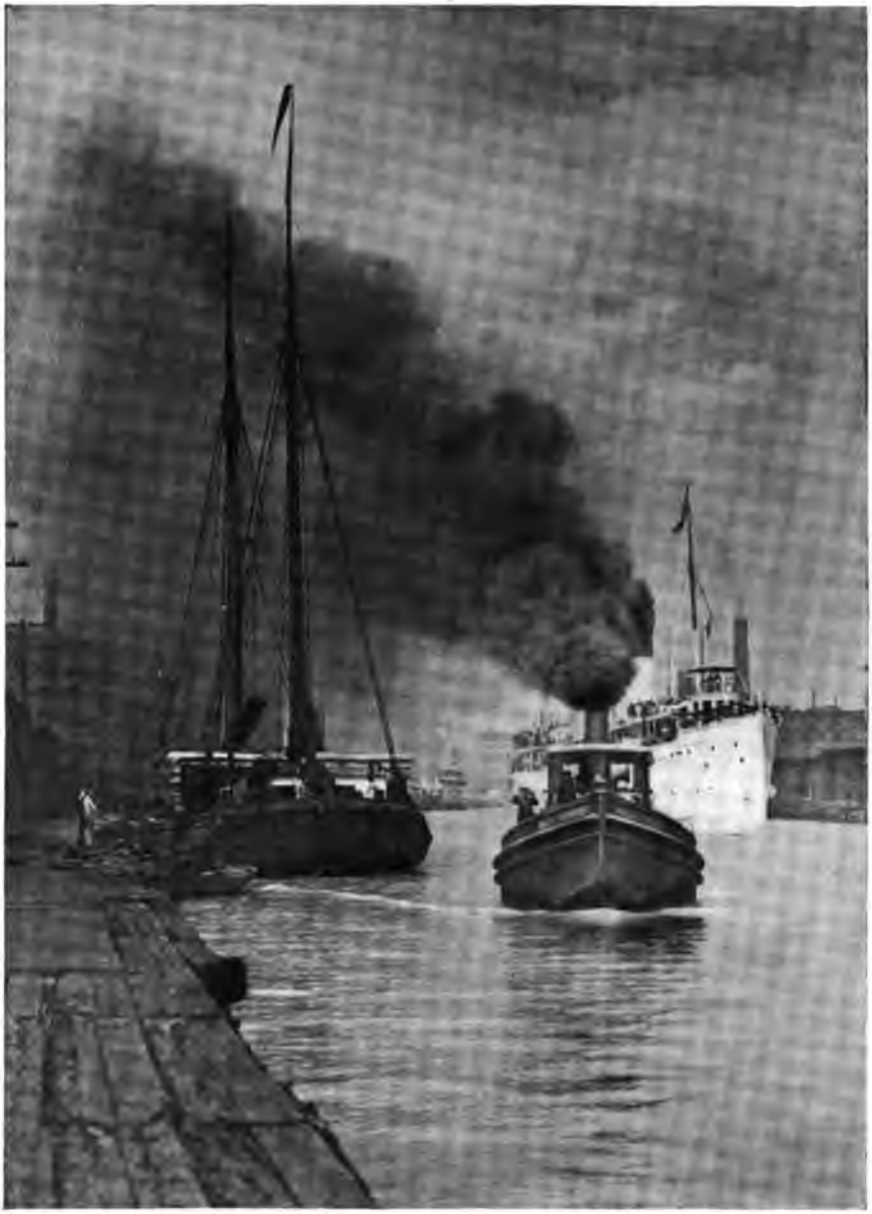
Honorable Mention, Marines

water on it, stirring it up with a stick until it is dissolved. The jug should be kept for this purpose, as when once hypo solution has been made in it it is practically impossible ever to get every trace of hypo out again, simple as it seems to wash it out, and even a trace of hypo is very harmful at times. When a solution is made thus with boiling water and wanted quickly, the cold water necessary to bring it up to bulk should not be added at once. The hot solution should first be quickly cooled as much as possible, and then cold water added. This will bring it down to a workable temperature much faster than by diluting and then cooling. It is quickest cooled by pouring it out into a flat dish (not a vulcanite or pulp one, which would be spoilt by the heat), and filling the jug up with cold water. In a minute or two the jug is emptied and the hypo put back into it, while the dish is cooled with the cold water in the same way. Two or three changes will very quickly effect what is wanted.

When the hypo is not wanted very quickly it may be dissolved in cold water, but as it is not so soluble in cold as in hot, and as the act of dissolving cools the liquid very much, this may take a long time. A pound of hypo may be placed in a Winchester quart (80-ounce) bottle of water, and at the end of a week it may not all be dissolved. Had a wide mouth bottle been used, and the hypo hung at the top of the liquid in a muslin bag, instead of lying at the bottom, the hypo would have dissolved in a few hours instead of several days.

In making up developing solutions, particularly in the case of pyro solution, the action of ordinary water on pyro is very rapid, and the solution discolors almost the moment it is made. To prevent this, it is the practice first to dissolve the preservative, sodium sulphite or potassium metabisulphite, usually the latter, and then to add the pyro. Sulphite may be dissolved in hot water; the crystals, if the water is very hot, suddenly become an opaque instead of a clear white, but no harm is done. The pyro must not be added till the solution is cold. If sulphite is used it is usual to add a trace of acid, citric acid will do, which liberates a little sulphurous acid, as can be detected by the smell, and helps to preserve the pyro. Hot water must not be used to dissolve metabisulphite, as this drives off some of its sulphurous acid, and so weakens its power as a preservative. The best plan is to hang the metabisulphite just below the surface of some cold water which has been boiled briskly, and allowed to cool quietly without shaking. The metabisulphite will dissolve without any agitation in an hour or two, and then the pyro or other developer may be added.

The order in which the different ingredients are dissolved is often important; and when no information on the subject is volunteered, the order in which they are given in the formula should be followed, except that the water, which is generally put last, must first be taken. If metol, for example, is dissolved in water and then sulphite is added in any great quantity, the metol may all be driven out of solution again. A ferrous oxalate developer is made by mixing a saturated solution of ferrous sulphate with one of potassium oxalate. If the oxalate is added to the sulphate, a thick muddy fluid quite unsuitable for use is formed, whereas if the sulphate is added to the oxalate we get a clear red liquid, which is what we want. In making up



COMMERCE ON CHICAGO RIVER D. H. BROOKINS
Honorable Mention, Marines

toning baths, the gold solution should always be diluted freely with part of the water and then added to the sulphocyanide, or whatever other substance is used, and not *vice versa.*

When a solution has to be boiled, as in the case of sodium sulphide for sulphur toning, it will not do to use a saucepan or other kitchen utensil, but a thin glass boiling flask must be got from the chemist. This may be supported on a piece of iron wire gauze over a spirit lamp or gas stove, and the liquid boiled in it without the slightest fear of the glass breaking, and without any risk of contamination, as would be likely to follow the use of an enameled iron or similar vessel. Those who have done any chemistry understand the use of a glass flask for this purpose, but to those who have not it seems strange that it should be possible to boil liquid in a glass vessel without risk of breakage, but it is quite easy.

Gelatine and glue, which is only impure gelatine, are curious substances to dissolve. They need hot water, yet if placed directly in hot water they may take an interminable time to dissolve. They should always be allowed to soak in cold water until quite soft, and then when placed in hot water, or heated, they will liquefy almost directly. When chrome alum has to be mixed with gelatine, as when preparing paper for single transfer carbon, the chrome alum must not be added suddenly, or the gelatine will just separate out in an insoluble form. The quantity of water should be divided, the gelatine dissolved in one part and the chrome alum in the other, both should be made hot, and then the alum solution should be added to the other a little at a time, with stirring. No precipitation of the gelatine will then take place if the chrome alum is not present to excess.

From what has already been said it will be seen that almost every solution has its peculiarities, and that these should be understood if it is to be made up easily and correctly. There are many other points to which reference might be made, but these must be left for another paper.—*Photography.*

TESTING OPTICAL SURFACES.—C. P. Butler calls attention to a very interesting method, described by Meslin, of testing optical surfaces which is more widely applicable than the now well-known method of using Newton's rings and monochromatic light. By employing a grating instead of the parallel test plate a new series of interference phenomena are brought into play, and the most important factor from a practical standpoint is that these new bands are very distinct in ordinary white light, so that little special apparatus is needed. The grating is placed over the surface to be tested, either in contact or a few millimeters distant. An interesting distinction of these grating interference bands from Newton's rings is that they are scarcely colored, being almost achromatic when viewed at an incidence about 45 degrees; further, the diameters of the rings *diminish* when the incidence is increased, whereas Newton's rings *increase* in diameter under similar conditions. They may be rendered very brilliant by increasing the reflecting power of the surface to be tested, say, by silvering, and hence the method may be applied to the examination of metallic surfaces, and also of liquids, such as mercury.

IN A NORTHEASTER

Honorable Mention, Marines

W. F. ZIERATH

EDITORIAL NOTE AND COMMENT

Thanks to the enterprise of the Eastman Kodak Company, the latest artistic process which has met with general adoption abroad, Mr. Manley's Ozobrome, is now commercially presented to American photographers. The process is not complicated, and allows bromide prints to be transformed into pigment pictures quickly and cheaply. We are glad to see the Eastman Company extending this helping hand to the artist photographer, and trust that their efforts will meet with complete success.

* * *

The Lumière Autochrome plate still appears to be the principal topic of interest to English photographers, and occupies much space in the photographic weeklies, though there is little new to be said about it. The plates have not yet been placed upon the American market, though they will probably be available before these words are printed. M. Antoine Lumière, head of the French firm, is at present in America, and was recently tendered a dinner in Boston, at which specimens of the color pictures were shown, and the statement made that the plates would soon be available in this country. We shall publish from time to time whatever of interest may develop in this connection.

* * *

The Fourth American Salon has started on its long round of the United States, a journey which will occupy it until well into next Summer. The list of exhibitors is made up almost wholly of men and women who are climbing the artistic ladder, while photographers with international reputations stand aloof. Of course, there are some exceptions, as Dührkoop and some English exhibitors, but the Salon may be regarded as a sort of training school for the younger generation. We shall make no reproductions from the pictures nor report of the exhibition until it arrives in some Eastern city where facilities for examination are afforded us. No engraver in Pittsburg is competent to make reproductions for our pages, as we discovered to our sorrow last year. As we could not send the pictures of this year's Salon away from Pittsburg to be reproduced, we cannot show them to our readers. It is true the management has offered the photographic magazines copies of the pictures for reproduction, but we doubt if any photographic editor will be foolish enough to accept this offer. The making of such reproductions and distribution of them by the authorities of the Salon shows a striking disregard of their duties toward the pictures in their charge, for the double loss of values entailed in two reproductions between the print and the half-tone is certain to make such renderings the merest travesties of the pictures reproduced.

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We trust that the perusal of our pages gives our brother editors as much quiet amusement as we are able to extract from the remarkable statements which they make. We append a few quotations from current maga-

YACHTS IN HARBOR **R. L. BLOUNT**
Honorable Mention, Marines

zines on our desk. Tony babbles in the *St. Louis and Canadian Photographer* at some length as regards the Dresden exhibition. We quote the concluding sentence. "Efficiently supported by the government, the county council and her numerous artists, Dresden herewith undertakes quite a novel task, which is to be hoped will bring her the same success as her former exhibitions of international fame." It would have been quite as intelligible if it had been written in English, Mr. Babb. *Camera Craft,* with commendable enterprise, has an article on the Lumière plates by an employee of the manufacturers, and plumes itself in a characteristically egotistical editorial, concluding: "Commenting upon a process, much less attempting to describe it, without having seen one of the resultant pictures, may display considerable editorial confidence, but it is hardly flattering to the understanding of the readers." We must apologize, dear brother Clute, for having ventured to anticipate you in a description of the new plates, but it happens that we have been familiar with this process for some three years, and the present writer has described it in several places, such as the *Photo Era,* the *Scientific American Supplement,* the AMERICAN AMATEUR PHOTOGRAPHER, etc., while you were sleeping. Also, to correct you in a trifling detail, he has seen specimens, although up to the present time, he has not been fortunate enough to be able to obtain plates for personal use. To correct another incorrect statement of yours, the first sample to reach this country was brought by Mr. Brulatour, New York representative of the Lumière firm, many months ago, and is a portrait of himself taken at Lyons. It was seen by our editors as well as by numerous other persons last Spring. Jumping from Pacific to Atlantic, we come across the last number of the *Photo Era,* which, after some caustic comment on the part of the English press, has executed a characteristic *volte-face* on the Lumière process, perhaps on account of the advertising possibilities. Referring to the Salon, Mr. French thinks that the artist jury performed a "thankless task" in choosing the pictures. Rather cruel for him to say so, after they passed one of his prints. But his most delightful opinion is the following gem: "The catalogue, of which ten thousand have been printed, is more artistic, hence more expensive, than any heretofore issued by the Federation." This method of correlation of art and expense savors rather of the city of quick millions than of the Hub. But we assume that it is spoken *ex cathedra,* for the *Photo Era,* when it was artistic, went bankrupt.

* * *

Our November Competition, subject, Atmospheric Effects, closes December 1. Prints must be sent to Frank R. Fraprie, 6 Beacon street, Boston, Mass., and *not to the New York office.* Several prints are not considered each month for violation of this rule, which is inflexible. Prints sent to New York are never seen by the judges.

These competitions are open to any photographer, whether a subscriber to AMERICAN PHOTOGRAPHY or not.

The first and second prize winners will be awarded bronze medals. The first prize winner, in addition to the sum of five dollars, will receive a bronze medal with blue ribbon and silver bar. The second prize winner a bronze medal with red ribbon and bronze bar. Those submitting good work, but

MARCH Portfolio W. A. VAN WAGNER

not sufficiently high to warrant a prize, are accorded honorable mention. Pictures awarded prizes or honorable mention may be reproduced, and unsuccessful pictures will be returned if requested.

Future subjects are: For November, Atmospheric Effects, including Fog, Mist, Rainy or Snowy Days, Rainbows, Sundogs, Clouds, etc. For December, Genre. For January, Portraits. For February, Snow Scenes.

The prize-winning pictures in the Marine Competition are of high merit, and the decision was rendered only after long consideration. We reproduce several of the pictures sent in.

* * *

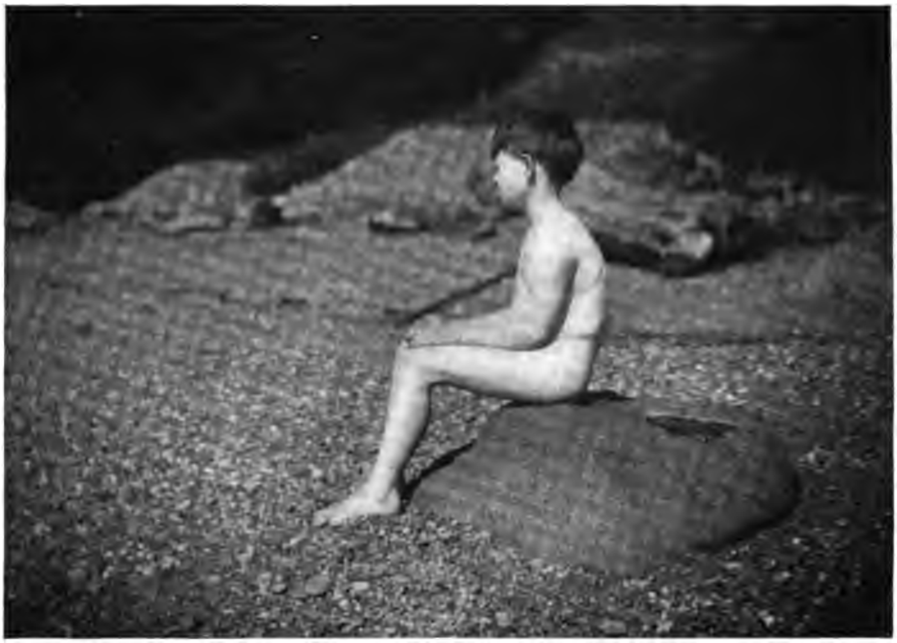
WORDS FROM THE WATCH-TOWER.

A slight break-down some months ago led to the vacation of my usual point of observation and sent me wandering from place to place in a way that made writing my usual "Words" impossible. Once more in harness, I hope to keep the searchlight revolving on the tower, and if, in telling what it shows, any one should feel that I trample on his toes I can assure him in advance that I did not mean it.

In passing through New York in the beginning of October I had the pleasure of meeting Mr. Stieglitz and some of his Secession friends in "The Little Galleries," and saw what may be called some of the Secessionists' work on the Lumière Autochrome plates. But "saw" seems too cold a word to convey what I felt. I have seen most of the more or less successful attempts at color photography but never anything like this, nor did I expect to live to see it. As I realized its perfection, I felt more than ever before the Godlike power that had been given to man, and there arose in my throat that choking sensation, the forerunner of tears that I should not have been ashamed to shed.

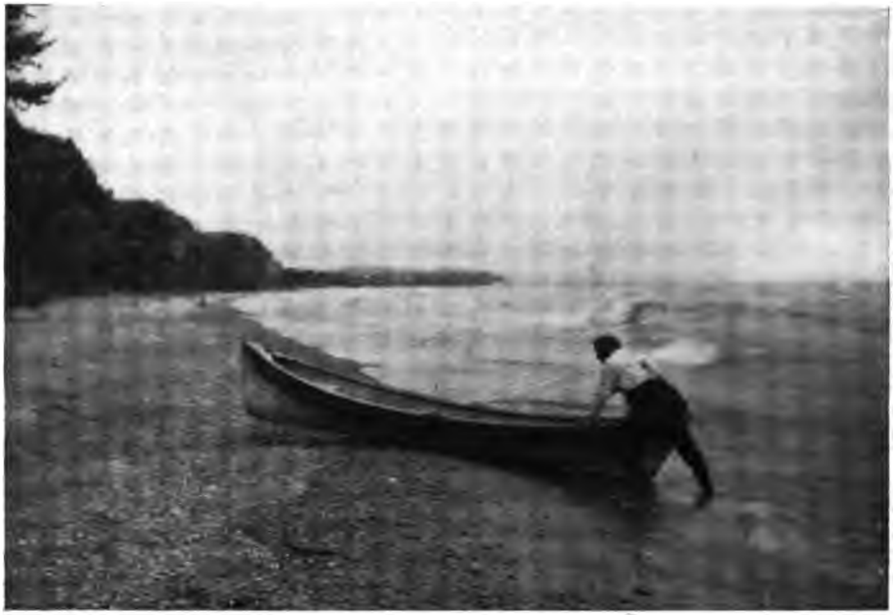
The pictures in natural colors are not strictly in the colors of nature: nature is not, or at least is rarely, in the highest degree artistic, but in most cases, what, if painted, would seem gaudy or unnaturally contrasty; while here the colors are in the highest degree artistic; even the whites, grays and blacks are reproduced in perfection. In short, they must be seen to be believed; and I am glad that by the beginning of November the "Little Galleries" will be opened to the public, when I hope that all who can make it convenient to visit New York will make it a point to do so and see for themselves one of the wonders of the age.

At the present time of writing the Autochrome plates are not on sale in this country, although I see they are advertised in Scotland, but doubtless before this reaches the eye of the reader they will be in the hands of the dealers. Their manipulation is simple enough to be within the power of the average photographer. They are exposed in the ordinary way in the ordinary camera and developed in the ordinary way. The negative image is then dissolved by a solution of potassium permanganate acidified with sulphuric acid, in daylight, and redeveloped to a positive transparency, when the colors appear in beauty and harmony depending on the skill of the operator. Although my lines are cast just seven hours by the fastest train from New York, I feel as if I must undertake the journey to once more see the wonderful pictures.—THE WATCHMAN.



READY FOR A SWIM **HERBERT LINGE**

Portfolio



ASHORE **CARL KREBS**

Portfolio

OUR PORTFOLIO

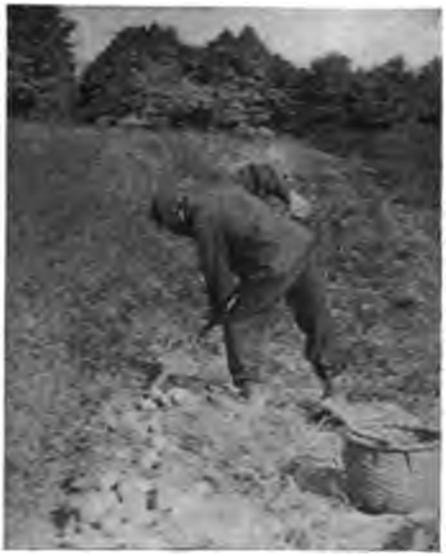
Prints for criticism under this heading should be sent to Dr. John Nicol, Tioga Centre, N. Y. Only one by each reader will be criticised each month, and if more are sent the surplus will go to the waste basket. Mr. Fraprie will also criticise prints if sent to him at 6 Beacon Street, Boston, Mass.

[NOTE.—We regret that a package of criticised photographs was so mangled in mailing as to make it impossible to reproduce several intended for that purpose.—EDS.]

J. J. BRANN.—This untitled print sends us back to the early wet collodion days, when the larger and the sharper the subject the better, and when white paper sky was the ultimate object of the amateur. Like the prints of those early days, too, only an expert could say that this is not on the earlier albumen paper toned in alkaline gold chloride, and afterwards fixed. And in those days it would have been a prize taker, as, except for the bald-headed sky, it is in every respect a fine photograph of the "record of fact" or survey variety.—N.

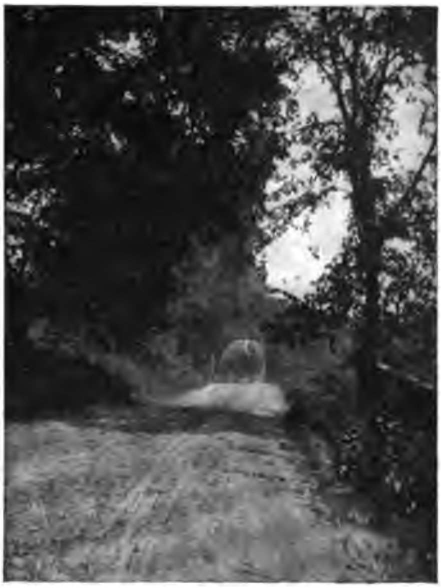
HERBERT SCHIVELY.—The unnamed print. a lady sitting against a tree on the banks of a sheet of water, is an ambitious subject, but a good way from success. In the first place, it should have been converted into an upright instead of a horizontal by trimming off about two and three-quarter inches of the uninteresting matter on the left, and the lady should have been doing anything rather than staring into the camera while the exposure was made. Then, that she is beside a sheet of water is only to be guessed at from the surroundings, as it cannot be properly suggested by merely white and black, nor did you ever see trees so black in any kind of daylight as those represented here. It is a good idea badly carried out. Different lighting, that is, at a different hour of the day, and a longer exposure, would have given you a much better result; but you should study good pictures or photographs, so as not to be satisfied with such representations of nature as this. We do not mean that you should copy nature as it is, but as you feel it to be; but at the same time, nature must not be violated to an extent that makes water and trees little more than black outlines.—N.

HERBERT LINGE.—We hardly know what to say about this unnamed marine print, nor do we understand just why it has been sent. It is evidently from a negative so thin as to give only a faint impression, with not the slightest difference between sky and water except that in the former there are faint indications of clouds; the whole looking like a print taken from the printing frame in less than a third of the time required to properly print it.—N.



A. G. HOLCOMBE

A. G. HOLCOMBE.—"Potato Digging" is better in intention than in execution, that is. the arrangement is good but the photography is bad; the whole print being of one uniform gray without contrast or indication of light and shade, an essential



C. W. Haynes

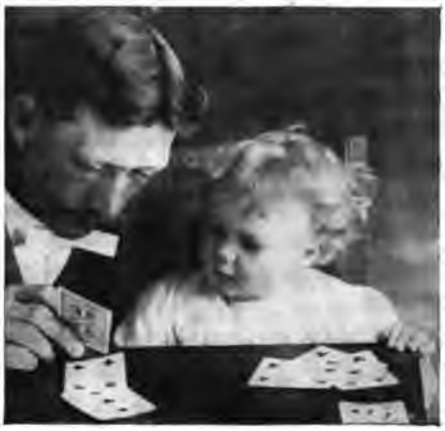
in all pictorial work. Then, you have missed an important thing in the composition, the placing of the basket. The position of, the figure seems to require support, and the basket on the opposite side would just have given it, preventing the feeling of the probability of the digger toppling forward. After some practice in photographic technique and the study of composition we shall be glad to see further samples of your work.—N.

C. W. Haynes.—"A Country Road," although a somewhat hackneyed subject, might have been a fairly good picture, as the point of view has been well selected, but for lack of sufficient exposure is little more than a failure. Instead of one-fifth of a second, one second would not have been too much, as then with proper development, trees which form the main part of the composition would have been like trees instead of merely black blotches. You cannot make photographs worth looking at without sufficient exposure, and this had not got anything like sufficient. —N.

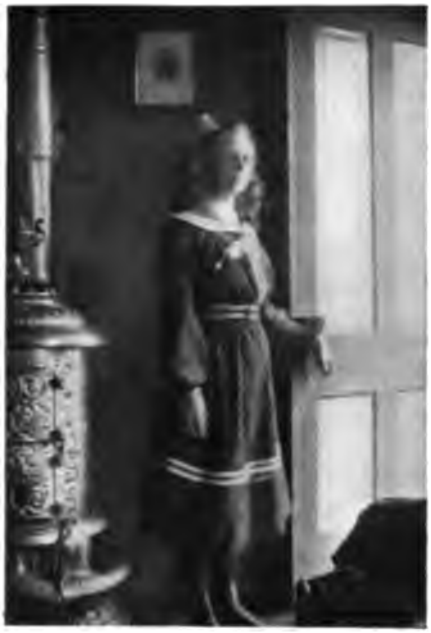
Herbert Linge.—The nude boy sitting on a large boulder, while a good enough photograph, is absolutely without motive or reason for being there, or, being there, why should you have photographed him? A naked boy amidst apparently a lot of sand dunes does not appeal to us as being a fit object for the camera, nor does there appear any reason why he should be there. We can only say that it is an example of the waste of good photography.—N.

L. C. Walbridge.—By looking at the heading of this column you will see why we select only one of the six prints sent for notice, and it is the one entitled "Hearts Are Trumps," because it is the only one that does not show that the sitter, or rather sitters, are not showing that they are conscious of being photographed. And it is very good so far as it goes, although it does not go far enough. Evidently a father and son, the former amusing the latter, a child, with playing cards. But why show only a portion of the head of the father and only a half of the bust of the child? You can evidently do so well that you should not waste time and material on such bits of portraiture, making, as it were, fun of photography, a thing that we take too seriously to spend our time on.—N.

J. Brommell.—"I Am Not Going Out," a girl standing at a door with her hand on the knob, but surely you can see as



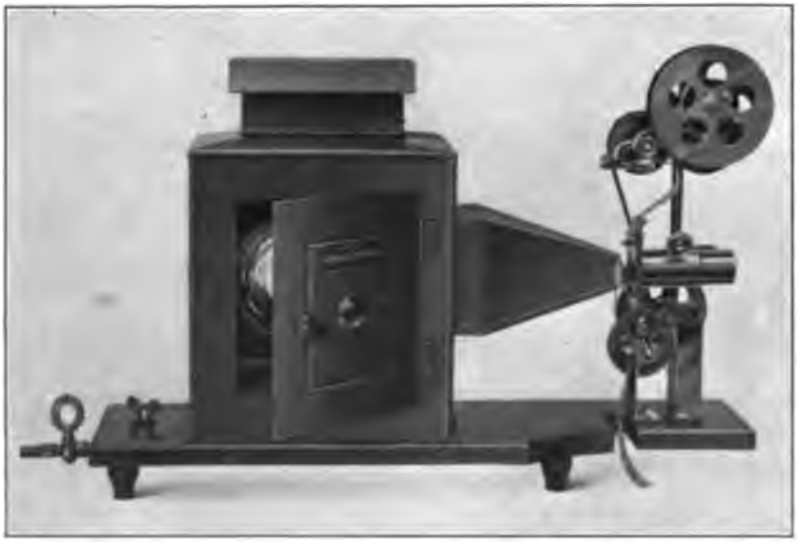
L. C. Walbridge



J. BROMMELL

well as we that it is a photograph of a stove rather than that of the girl, the former being perfectly sharp, while the latter is considerably out of focus. But even if it had been the girl instead of the stove that was the objective point, the picture would have been very objectionable from the repetition of the vertical lines, no less than four, two of the door, one of the girl, and one of the stove, without a single line in contrast. Aside from that, however, the girl whom you intended to make the point of the picture is standing as stiff as a wooden figure, far too conscious of being photographed, and not at all in keeping with the title, which suggests something in the line of action without which, no matter how perfect the photography, it would have been a failure.—N.

James Traver.—The child portrait is one of the best that we have seen for months, both as to technique and art; indeed, it is just what a child portrait should be. The pose is natural and therefore fine, while the expression of the pretty face is simply charming. To secure this beautiful play of light and shade on a white dress is one of the rarest triumphs in photography; and you are to be congratulated on your success in every phase of the work. The pretty child standing square on to the camera, con-



THE IKONOGRAPH See Page 278)

veys, nevertheless, the least trace of staring into it stiffly, like a wooden figure, but with that happy smile on the face that shows how she enters into the spirit of the fun of it. With such a model you could work wonders in child portraiture in a way that should show professional photographers its possibilities.—N.

Elmer D. Smith.—"Nature's Supremacy." While we might agree with you in thinking that a collection of beautiful trees is one of the most beautiful things in nature, we cannot think that they are properly represented by hardly anything but blackened paper. The group here is well selected, especially with the larger two as sentinels in the foreground; but surely you never saw trees so black except at midnight. With proper exposure you might have had a fine example of record photography, but for want of sufficient light it is little better than a failure.—N.

Frank E. Colby.—"Winter on the Charles River" is a fairly well selected subject and would have been an equally good photograph if you had given it three times the exposure. Neither sky nor snow are correctly represented by white paper, and even in November trees are not simply black branches. From the conditions given on the back of the print we should say that a second instead of only one-quarter would have been about right. Look to the heading of this department and you will see why we have only noticed one of the two prints sent. —N.

W. A. Van Wagner.—"March" is a representation of a dreary landscape which the more we study the better we like; its only fault being the tall tree parallel with the upper right margin of the print. which we think should have been trimmed off.—N.

H. E. Stout.—"The Path Through the Wood" is a good subject which would have been more effective had a lens of greater focal length been employed; the point of view has been so close to the subject as to give a perspective that seems incorrect. Had the exposure been a little longer and the development a little shorter you would have had a more natural sky, and the trimming should have left a little more behind the two figures, their closeness to the margin giving a feeling that they are hardly connected with the picture. Then, the greenish color is, to us at least, unpleasant, almost any other shade being better. Aside, however, from these faults, we like the picture very much.—N.

C. M. Curtz.—"A California Sycamore" is a good example of record photography; the photographing of a single tree for educational or other purposes, is a branch of the art that is too much neglected. That here, however, is much darker than it should be, simply black without detail or one leaf lighter than another. It should be understood that such subjects act on the sensitive film only by the white light reflected from their leaves, and that even one second at f-22 is far too little. Two or three seconds would have been more likely to give the desired representation.—N.

Carl Krebs.—"Ashore"; in this you have got back to something like your old and better work, and in its beauty of simplicity this print at once arrests the attention. The figure pushing the boat on to dry land is suggestive of a finished trip for work or pleasure, is the objective point, and there is nothing in the composition to take the attention from it. The light, frothy swirl leads the eye from the right hand corner to it, while the rocky eminence in the upper left shuts it in, as it were, keeping the eye from wandering. The technique, on the whole, is good and the water fairly well suggested, although the horizon line is a little high, giving a weakness that might have been easily avoided. The only real improvement that we can suggest is the printing in of a few clouds, as pictures of the sea without some cloudland always seem to be lacking in something.—N.

Harry Milford.—If you had read the heading of this column you would not have sent four prints, and if you read it now you will see why we select only one for notice. As you particularly refer to the water-colored bridge, we select it for notice, and have only to say that the coloring is so slight that it is hardly noticeable, and we may add that so far as photography is concerned the less coloring the better. Such a bridge has nothing of the pictorial in it, but as a record it is very good. Bridge photography is a class almost by itself, hardly ever pictorial, but not the less valuable on that account.—N.

W. F. Lichtenberger.—Your, probably "Grandmother and Child" is a very poor print from an apparently good negative, and the first thing you should do is to learn how to make a better. The dull leaden color is not attractive, is, in fact, just such an one as any ordinary photographer would throw away as a failure. Then, after knowing how to make good prints, turn your attention to composition, and you will see that here you make a mistake in causing the child to stare into the camera, instead of looking toward the grandmother, the only thing needed to make this a pretty picture. Let the aged one be telling the child a story or in some other way interesting him, and you will at once see an interesting expression on the pretty face, instead of the wooden and uninteresting face you have here.—N.

J. A. Peters.—"A Quiet Ramble" is not nearly so interesting as it might be because there is far too much uninteresting matter for the eye to rest on the objective point, the figure in the distance. Heroic trimming will often bring a nugget of gold out of a mass of apparently worthless material, and so it is in this case. Trim two and a half inches from the left, making the picture an upright instead of a horizontal, and you will see at once that you have a very much better composition. But if your pictures are for sale to the general public you should aim at getting greater sharpness, as, while this is just as it should be to please the more cultured it is lacking in the definition required by the people generally.—N.

G. B. Fry, Jr.—"Conewango Creek" is a good subject not reproduced at its best. The fault in composition is the inclusion of the road on the left leading, as it does, out of the picture and away from the main objects. The camera should have been placed so as to cut out that, and of course placing the figure a little nearer the center Then, she should not have been allowed to stare at the camera, but giving her attention to something connected with the creek. With that exception the composition is all right, but the same cannot be said of the photography. The exposure has been far too short and development far too long, the result being that both sky and water are simply white paper while almost all else is equally black. Three or four times as long an exposure was required to make a negative of the subject that would give prints worth printing. You may also take it for granted that when you get skies of white paper that nothing else is right; and you had better leave art alone till you have thoroughly mastered photographic technique, and then you will find art come easy.—N.

SOCIETY NEWS.

Reports of meetings and exhibitions and announcements of forthcoming events are solicited for publication under this heading.

The National Convention.—From several photographers I have received kindly worded requests that I speak out frankly what I thought of the Dayton Convention. Were I inclined to be smart I would probably be tempted to reply, "I hate to think of it." Such remarks are worthless from any point of view, and when one comes to the consideration of the annual convention of an occupation in which at least 13,000 individuals have invested their capital and expend daily their time and energy, one must treat it very seriously. To hold it at least $5,000 were expended by the association, while if each individual present spent only $50, collectively it represented an outlay of somewhere around $50,000. I never could attend a convention at as little as the cost suggested, and I fancy I am not far off when I say a meeting of the National Convention represents a total expenditure of $100,000 that must be charged against the profession. No, you need not tell me each individual voluntarily paid his share, because when you get to the last analysis of the expenses incurred by manufacturers, demonstrators and photographers, you will find that all of the money spent was earned by the profession as a whole.

Here is a great, almost astonishing, expenditure of money incurred in a few days by an important business industry in this country. Query, do the results justify the expense? Emphatically, I think not, and I am surprised that an association of the mature age of 27 years should be drifting along without a definite policy to guide it. This may sound a rather severe stricture to pass upon an association in which I have been deeply interested for many years, but I search the photographic journals in vain for a single commendation of its conduct. Felix Raymer is a jolly good fellow, and he calls it a jolly good convention at which he met jolly good people and had a jolly good time. Anybody who knows Mr. Raymer does not need to be told he found the convention at least that, because he would find any crowd he happened upon to be composed of just that kind of people.

No one enjoys a good time better than I do and I fancy I put in quite a number of good licks every day to make sure I get it on the daily instalment plan, and I therefore don't in the least object to any convention being jolly. But after all, a convention is supposed to be a business proposition and the average photographer is urged to invest, not spend, his $50.00 or $100.00 with the oft repeated assurance that he will get all his money back and more within two months, on account of the new ideas he will absorb. Problem, did the $100,000 Dayton Convention do $100,000 worth of good to the photographic profession? Frankly, I doubt it, and will proceed to set forth my reasons.

I will admit at once that conventions are a necessity of modern every-day conditions and, in fact, I would have little respect for a profession or occupation that did not hold one. But, and here is the crux of the whole matter, every convention must be in harmony with the spirit of the time in which it is held, and here we find the reason for the ever changing policy that is characteristic of all such bodies as the years roll by. When the P. A. of A. was organized this country had not entered into the swift stream of economic development that has been so noticeable since the early nineties, and so in the early days of the association "having a good time" was the natural and logical condition. The last real "good time" convention was that of St. Louis, in 1894. Now watch the harmonious evolution. Up to the panic of 1893 business in this country was done largely on a "good fellow" basis, but from that date the watchwords became "economy, organization and accuracy." We entered upon the era of the machine process, in which skilled workmanship became the highest factor. By no mere coincidence, but as a part of the great change going on in all quarters, the Detroit Convention of 1895 showed by the work of Hollinger the possibility of purposeful skill in photography, the ability to aim for a predetermined end and to attain it. Incidentally here is the weak point in photography as an occupation, and I know of but few men who could be relied upon to duplicate exactly a given effect.

The past few years of the convention were strictly along this line. Every occupation in the country was demanding more and more skilled accuracy, and so in fitting harmony the principal feature of the conventions at Akron was technical—lighting, posing, printing and toning demonstrations occupying a greater part of the time.

Since the dawn of the present century the spirit of the time has changed. This country is now wrestling with huge economic problems and these are the subjects of keen consideration at all professional gatherings, excepting those of photographers. A photographer who makes a specialty of convention groups and who has been in touch with all kinds of gatherings from multi-millionaires to ignorant coal miners assures me that from the first minute to the last the only problem is the dollar and how it may be attained. The only exception he knows is a convention of photographers and there is the reason he is not found at such gatherings. Right here let me say that not so long ago I asked half a dozen famous and financially successful photographers why they ceased to be actively interested in conventions, and their answer was that the average photographer did not know he was in business for money, but as soon as the signs indicated that most photographers realized what they were in business for these men would gladly join and if possible tell how to make dollars.

A man must be judged by the spirit of the times in which he lived and so must a group of men, an assembly or convention. The spirit of the times in this country to-day is emphatically economic and one cannot turn without being affected by it Let me illustrate from local conditions. At present I am living in a town of not more than four thousand inhabitants, which is the center of a famous fruit region. I find the fruit growers organized into an association to sell their fruit as a unit and so eliminate competition as far as possible. Incidentally the association also guarantees proper grading of the product.

The barbers of the state, I find, have secured a charter from the legislature that permits them to insist upon a qualifying examination being taken by any one who wishes to ply scissors and razor upon the hirsute growth of his fellowmen. The excuse of course was the old one of the public health. But having secured the means of limiting their number, they have agreed as a matter of course upon prices and so in each barber shop you will find a schedule of charges adorning the wall, and I find I am paying 25 per cent. more for the proper care of what little of my hair remains than I did in Chicago.

Even in the dry goods field I find agreements. One day I got orders from my better half to bring home six spools of cotton, all different. I got four in one store, paying 5 cents each, but for the other two I was charged 6 cents each, at another store. When I mentioned the price I had paid elsewhere the proprietor coolly informed me the other man had broken the agreement, and right before my eyes he started off for the other store to remonstrate. Then I see that the cotton growers of the south have also pooled their interests so that they get more profit out of their labors.

The spirit of the times is emphatically economic and I hold that the Dayton Convention must be judged by that test. When so judged, how about it?

The published reports would indicate that it partook largely of the nature of a popular magazine or daily newspaper—a little of everything was given, but it stood for nothing definite. It discussed a whole lot—but settled nothing. For years the association has worried at each meeting about the question of prizes, which after all is a small matter that concerns the vanity of a few individuals and has little bearing upon the great financial problems of the profession, and yet the combined wisdom of this gathering could not after five years come to any decision. They had as a matter of fact a prize scheme under the title of "Salon honors," but this did not suit the second and third rate men who want medals for second and third rate work through the old trick of multiplicity of classes.

And is it true, surely it cannot be, that photographers were invited to send in work that was not their best artistically, from which were to be chosen twenty pictures on account of their artistic merits? If true, this is decidedly funny.

Then the Academy project once more

held the floor for several hours, and was likewise left unsettled. Photographers in convention assembled certainly go slow—one wonders if they really do move. This project is also of the vanity tickling variety, that concerns only a few, and is entirely out of sympathy with the times, and above all has no place in an occupation that is entered into primarily for money. Photography, at least professional photography, is a business proposition, not a fame earner.

Unfortunately for me the address of Mr. Koehne was not reported, but knowing that gentleman well and also his great financial success, I feel certain his exposition of methods would be exceedingly interesting. Whether or not they would be valuable to others I cannot say, but I am doubtful, as his exposition concerned only that part of studio management in which the personal equation is the most important factor. After all, in very few instances can one man copy with advantage another man's manners and methods in the province of direct dealings with the customer.

Mr. Harris' talk on "System" was good and probably reached quite a great many people who failed to see it in the *Photo-Beacon* not so very long ago, when it was first given to the photographic world. I have no objection whatsoever to this lecture, but I simply wish to point out that it treats of an individual problem, when my point of view insists that broad, all-including problems should be the theme. As a matter of fact I am fast coming to the opinion that all conventions these days, both state and national, are bothering themselves far too much with subjects that the aristo schools at the stock houses handle much more efficiently and practically, simply because of the wider experience of the instructors. Not a few photographers have assured me that this is their experience, and probably here is the chief reason for the lessened attendance at conventions these days.

It is of little purpose to find fault with existing conditions unless one can suggest ones that are better. I may frankly state that I still believe in the system I outlined some years ago and fully expect that at no very distant future photographers will gravitate towards it. I recognize as perfectly as any one the impossibility of jumping from one mental position to another, and so was not disappointed at the lack of practical enthusiasm which my project received, even if the chorus was encouraging.

The most hopeful sign to-day is that displayed in the New York state idea. I am not referring to the fact that it is a strictly professional organization, in which the manufacturer is conspicuous by his absence. It is the local social feature as shown in the district groups I refer to and it interests me greatly to see how quickly the economic or dollar feature is coming to the front. There has been no attempt at uniform prices, but in some localities there are agreements of some kind about school and similar groups, and I understand upon other financial points. Here is a definite basis for development, following the political system of this nation. First, the local unit administering its own affairs. Above we have the state organization at present very loosely attached to the local bodies, but I foresee the time not so far away when it must become a representative body. The economic principle has found a pretty strong foothold and I am interestedly watching its development.

The present status of the National is untenable. It is, I suspect, losing its general hold, and I feel certain that just as soon as the other state associations adopt the New York idea of local branches, the suggestion that Pirie MacDonald made years ago for a linking between the state and national bodies will be adopted. There will probably be a transition era, but the ultimate outcome will be a series of representative institutions based safely and soundly on economic foundations.

F. Dundas Todd.

* * *

Camera Club of New York.—The first quarterly meeting of the club was held on Tuesday evening, October 8th, at which President Charles I. Berg presided and welcomed the members back from their summer vacation. The time of the termination of some of the competitions, it was announced, had been extended.

The chief item of interest during the meeting was the exhibition and discussion of a new simple and portable moving picture apparatus, particularly designed for the use of amateur photographers, adapted for home use, which was described by Dr. Ralph J. Sachers and called the "Ikonograph."

The accompanying illustrations give an idea of the apparatus. The device for moving the picture film avoids the usual feeding and expensive shutter mechanism, and is reduced to the simple plan of moving the film forward in motion rapid enough to maintain the sequence of motion as observed by the eye.

This is done by a small eccentric cam attached to a shaft rotated by hand, having a small point which projects through the single row of perforations in the film and draws it downwards one picture at a time at each revolution. It is the proper movement of the film in this way without the interposition of a shutter that gives the effect of motion to the eye. Another unique device is an automatic arrangement for intercepting the light the moment the revolution of the crank is stopped, to prevent the overheating and possible ignition of the film. The lantern is light and convenient to handle and is readily set up on any convenient support. The manufacturers supply it equipped with a gas mantle lamp, or a 100-candle power incandescent lamp, an acetylene lamp, or an arc light. For home and school use the acetylene gas light is advised as being the most effective. When the incandescent electric lamp is used a satisfactory picture 2 by 3 feet is produced. An electric arc light gives a picture 5 by 8 feet, or even larger, sufficient for school rooms and most country halls.

The pictures on the film are about half the size of those in general use, thereby allowing 24 pictures to the foot of film instead of 12 of the regular size. An exhibition was given with the apparatus attached to the club's arc light lantern which was quite satisfactory. With this machine the film may be moved in the reverse direction, which makes a very ludicrous effect, as, for example, divers jumping back from water to the spring-board from which they originally jumped.. Dr. Sachers also exhibited and explained for the first time a stereoscopic moving picture camera, which is about to be introduced.

The positive pictures made from these negatives will be arranged in such a way as to be viewed in a stereoscope having a magnified image and enable the full stereoscopic effect to be observed. A special light camera for making the pictures is to be put on the market soon.

On the evening of October 11th the interchange set of the Toronto, Canada, slides were exhibited and were considered of excellent quality.

* * *

THE AMERICAN LANTERN SLIDE INTERCHANGE.—The time for the closing of sets of slides to be sent in for the new season of 1908 is November 15th. It is believed there will be some new accessions this year, sets are expected from the Akron Camera Club, the Sherbrooke Camera Club, of Quebec, and the Montclair Camera Club. Clubs desiring to avail themselves of the benefits of the Interchange should address F. C. Beach, General Manager, 361 Broadway, New York.

* * *

Charles M. Kurtz, director of the Albright Art Gallery of Buffalo, greatly impressed by the artistic value of the photographs recently exhibited upon his walls has determined upon holding an international exhibition of photographs in his gallery during the Winter of 1908-9. Though plans are not fully matured, it is hoped to get together a thousand photographs from the leading amateurs of all the world. Four or five of the galleries will be devoted to the exhibition, and each photograph will be installed with ample space, exactly as paintings are hung in the rooms. We trust that the idea will be carried to a successful issue.

* * *

From May to October, 1909, there will be held in the Exhibition Palace of the city of Dresden, under the patronage of the King of Saxony, what bids fair to be the most important exhibition of photography ever projected. The organization is perfected on most excellent lines. The kingdom of Saxony and the city of Dresden have lent both moral and material support and the enormous expenses are all guaranteed. The patrons are the King and Crown Prince of Saxony, the diplomatic representatives of all the principal nations at the court of Saxony, and military and civil officials of high rank. The working organization consists of representatives of all branches of German photography, of high national and international reputation. Among them occur the well-known names of Dührkoop, Erfurth, Ernemann, Goerz, Juhl, Löscher Matthies-Masuren, Dr. Miethe, Dr. Neuhauss, Weiss, and many others.

The exhibition will' comprise the following classes, in all of which grand prizes, gold and silver medals, and plaquettes will be given:

I —Development, Science and Special Applications of Photography.
  a. History of photography.
  b. Schools of photography and reproduction; testing laboratories.
  c. Photographic literature.
  d. Scientific photography.
  e. Photography as a diffuser of knowledge of nations and peoples.
  f. Photographic instruction and education.
  g. Color photography.
II.—Photography in Trade and Industry.
  a. Professional photography.
  b. Photographic reproduction processes.
III.—Amateur Photography.
IV.—Photographic Industries.

We expect to be in a position to keep our readers well informed as to this important exhibition, and to assist all who desire to take part to do so.

* * *

We have received the catalogue of the Fourth American Salon, which will be on exhibition from November 3 to 16 at the Amphitheater of Duquesne Gardens, Pittsburg. It is afterward to be shown in other cities, but no details of the itinerary have been furnished us. The exhibition comprises 239 prints, of which a fair proportion are by foreign workers, mostly from England and Italy.

* * *

Miss Clarissa Hovey formally opened her new studio at 402 Bolyston street, Boston, by a reception on the evening of October 19, and a public exhibition the succeeding week. A very pleasing collection of work was on the walls. Miss Hovey is endowed with considerable ability, and her work shows marked progress. It is gratifying to her friends to learn that the appreciative and critical public of Boston have discovered her merit and are giving her well-merited support. We have chosen as a specimen of her work and reproduced the well-modeled portrait of the miniature painter, James Stewart Campton, which appears on another page.

* * *

The collection of German photographs arranged by Rudolf Dührkoop, the eminent photographer of Hamburg and Berlin, for the National Convention, was exhibited at the Brookline Art Union from October 1 to October 10.

* * *

CHICAGO CAMERA CLUB.—Believing in the pictorial possibilities of the lantern slide, and desiring to encourage the making of slides of artistic merit, the Chicago Camera Club presents to the consideration of sister clubs the following outline of a "Pictorial Lantern Slide Exchange," to be operated for our mutual advantage and pleasure.

This outline follows closely the plan of the Camera Club Print Interchange, which met with such decided success last year, and will be sent first to clubs now members of that organization. This club will assume the work of arranging itinerary, etc., for 1907 and 1908, probably following closely the print interchange schedule as arranged by the Capitol Camera Club. The rules are as follows:

1. Each club to contribute a set of *pictorial* slides, not less than 50 nor more than 100, properly boxed ready for shipment.

2. Each club to be the judge of its own slides and to see that they are of

such artistic and technical excellence as to reflect credit on the club and to tend to raise the standard of lantern slide work.

3. Each club to have the right, should it so desire, to enter slides made by other than its own members, the club, however, assuming responsibility for such slides being up to its own standard.

4. Each club to bind itself to follow absolutely the itinerary, so that slide exhibits may be depended on and advertised in advance.

5. Club shipping slides to prepay express charges and notify the managing club by postal card, giving date, to whom shipped, and *amount* of expressage.

6. Clubs paying more than their equal share of total expressage for the season, to be reimbursed by clubs paying less than their equal share, such payment being made direct between clubs interested on duplicate notice served by the managing club at the end of season. Difference of fifty cents either way from average expressage to be disregarded.

7. A book for criticism to be supplied by each club, and sent with the slides, criticism of each club viewing the set to be written therein.

8. Each club to be ready to ship by November 1, per the itinerary to be furnished by the managing club the last week in October.

OUR TABLE

Material for examination and books for review may be sent to FRANK R. FRAPRIE, 6 Beacon Street, Boston, Mass.

ART AND THE CAMERA, by Anthony Guest, with 49 illustrations. New York, The Macmillan Co., 1907. Price, $2.00 net.

This is a very attractively printed and beautifully illustrated book, which we can most cordially recommend to every photographer who has artistic ideals. Mr. Guest is a critic of the highest rank, who for a long time has been criticizing pictures for the ***Amateur Photographer*** of London, and this book is a re-writing of many of his ideas which have previously found publication in this form. The book, however, has a coherency which his series of articles did not and presents in ordered and rational form a concrete theory of art as applied to photography. The principles are elucidated by excellently chosen and reproduced photographs by many of the best known photographers of England.

* * *

INVESTIGATIONS OF THE THEORY OF THE PHOTOGRAPHIC PROCESS, by S. E. Sheppard and C. E. Kenneth Mees. New York, Longmans, Green & Co., 1907. Price, $1.75.

This book contains in uncondensed form the researches on photography through which the authors obtained their degrees of Doctor of Science from the University of London. Consequently, the matter is presented in a quantitative form which renders its perusal a matter of strict attention and determined study. A number of important photographic problems have been attacked in a scientific way, and very valuable conclusions reached; but the presentation is such as to render this a book for the scientific student rather than for the average reader. While no fault can be found with the highly mathematical treatment, still as a piece of scientific literature the book transgresses the most generally accepted manner of presentation adopted by scientific writers of to-day in that it does not present a logical summary of the work as a conclusion. Ten pages of summary of the results reached, in plain language at the end, would have immensely increased the value of the book to the average photographer, instead of leaving it purely a university text book.

* * *

THE COMPLETE PHOTOGRAPHER, by R. Child Bayley, Editor of *Photography*. New

York, McClure, Phillips & Co., 1907. Price, $3.00.

In this book, which, though published but a few months since, has already passed to its second American edition, Mr. Bayley has for the first time presented a complete and orderly book on photography, which simply and lucidly explains the theory of each important process without resort to formulas. The book is most eminently readable. It treats the evolution of photography, and all the various apparatus and methods, in such a fashion as to enable the average photographer to understand the reasons for what he does, without descending to explicit directions. The book not only refers to all technical processes, but contains much valuable material on artistic photography, together with some history of its evolution and a description of its present standing in various parts of the earth. The work is admirably illustrated with excellently reproduced pictures of high merit, and should be in the possession of every photographer who hopes to possess a photographic library.

* * *

PORTRAITS AND PORTRAIT PAINTING, by Estelle M. Hurll. Boston, L. C. Page & Co., 1907. Price, $2.50.

This beautifully illustrated gift book, while not written for photographers, should be in the possession of every portrait maker. Not only are the illustrations of great value, but the descriptions of methods adopted by various painters, and the history of the development of portrait painting, should be of the highest value to every student of art.

* * *

THE ART OF THE PRADO, by C. S. Ricketts Boston, L. C. Page & Co., 1907. Price, $2.00.

This description of the art treasures of the great Madrid museum is the latest addition to the series entitled *The Art Galleries of Europe*. Although possibly less familiar to Americans than others of the great galleries in Europe, in some respects this yields the palm to none. Not only does it contain a most valuable collection of Spanish paintings, but it is very strong in Flemish and Italian work. Consequently it is well worthy of the sumptuous volume here devoted to it. The book abounds in valuable material for every student of art.

* * *

PRACTICAL EUROPEAN GUIDE. Preparation, Cost, Routes, Sight-seeing, by M. D. Frazar. Boston, Small, Maynard & Co., 1907. Price, $1.00, net.

This inexpensive and compact little manual, of a size to comfortably go in the pocket, contains the fruits of the author's eighteen years of experience in conducting parties to Europe. While there exist at least a dozen books intended as instruction books for those who contemplate a European trip, there is none which is better for the purpose than this, or which contains more practical information in small compass. It is literally true that there is not a sentence in the book which could be dispensed with, or which does not contain a fact which the American traveler would be slow in discovering for himself. Not only are all the innumerable small things noted which are inevitable sources of annoyance to the unsophisticated traveler, but the relative advantages and disadvantages of numerous routes and places are carefully weighed. Full directions for purchasing tickets, with specifications of the accommodations offered by various routes, are given, and all of the various methods of saving money by special forms of tickets in different countries are enumerated. The important sights of every city of Europe are noted, and an excellent bibliography and list of hotels close the book.

* * *

THE UMBRIAN CITIES OF ITALY, by J. A. and A. M. Cruickshank. 2 vols., profusely illustrated. Boston, L. C. Page & Co., 1907. Price, $3.00.

These two excellently printed and illustrated volumes form the latest of the long list of books contained in the *Travel Lovers' Library*. Carrying on the plan of the late Grant Allen, the author of several preceding volumes on Italy in this series, the important art cities of central Italy, notably Assisi, Perugia and Orvieto, are exhaustively treated in guide-book form. To those who know the series, no further description of the books is necessary than to say that they maintain the standard of this series, which has become well known for purposes of reference. To those who do not, we would say that they are indispensable to every serious traveler who wishes to visit the cities described and understand what he is seeing.

* * *

THE MONTHLY REPORT from The Illinois College of Photography consists almost wholly of notices of visits of former students, some for further instruction, some who, having opened studios of their own, tell of their success, some merely to visit old friends, and one at least to get married, a hint that may be useful to ladies having a desire that way. It tells also of another student from Japan and of a new Superintendent in the Photo-Engraving Department, who has had large experience and is highly spoken of. Altogether the college continues to prosper, and judging from the reports of the success of former students, whether as assistants or proprietors, they have no reason to regret their connection with it.—N.

* * *

THE PHOTO-MINIATURE, Nos. 81 and 82, awaited our home-coming amongst a pile of other held-over matter; a fact that accounts for our not having noticed them before. And they, especially No. 81, are well worth noticing here and studying by our readers.

No. 81 has, by way of frontispiece, seven reproductions of portraits of children by the well known German photographer, Herr R. Dührkoop, which are, as the editor says, "superb in their technical as in their pictorial qualities," and are well worth the price of the number as studies up to which to work. James Thomson, a careful experimenter, has an excellent article on kallitype, supplementary to one on the same subject in No. 69, and one on a new sepia paper giving rich tones by water development. Just why kallitype has not "taken hold" is difficult to say. It is very cheap, costing hardly more than the blue print; and almost, if not altogether as simple; while its permanency is simply a matter of careful manipulation. We have before us while we write, a print made within a week after its introduction by our namesake, and it is as brilliant as when developed, although we must add that it was treated by the encaustic paste that was then in considerable use.

* * *

Messrs. Williams, Browne & Earle, 918 Chestnut street, Philadelphia, inform us that they have undertaken the American agency for the Irostigmar, a new lens introduced by Beck, of London. The principal peculiarity of the construction is the separation of the glass sections, the lens being essentially different in construction from any other anastigmat. Hence it can be sold at a very low price. More details will be given in a later number, when we have had an opportunity of testing the lens. A preliminary test showed that it is a strong competitor of the higher-priced anastigmats. Williams, Brown & Earle are so confident of its merits that they will send it on approval.

* * *

The Bausch & Lomb Optical Company are at work making extensive additions to their already enormous plant. Two years ago a three-story building, 40 x 440 feet, was erected for administration purposes. Manufacturing needs made it necessary to encroach upon this to such an extent, and still the space proved inadequate, that finally these new buildings had to be undertaken. Two new stories are being added to the administration building, and north of this site the work is being rapidly pushed on a five-story grinding plant, 119 x 238. These, when completed, will almost double the present floor space, giving them about ten acres.

* * *

G. Gennert, 26 East Thirteenth street, New York, ask us to announce that they are now importing the Austin Edwards film, which is giving the highest satisfaction.

* * *

With the universal use of Graflex and other cameras equipped with focal plane shutters, there has come the need of a reliable, comprehensive and easily understood book on the subject of high-speed photography. "Focal Plane Shutter Photography," a very attractive book issued by the Folmer & Schwing Division of the Eastman Kodak Company, furnishes a fund of information that is not only essential to the user of a focal plane shutter, but equally valuable to the every-day photographer who may wish to have clear ideas about depth of focus, depth of field, angle of view, and many other seemingly abstruse subjects which are clearly and concisely explained. The illustrations in themselves constitute a comprehensive lesson in photography, as under each picture (and the book contains many) is sufficient information to enable the photographer to proceed with confidence to make negatives of similar subjects. A number of new and heretofore unpublished tables occupy the last five pages of this valuable book, a copy of which will be mailed to those interested in focal plane shutter photography, free upon request, by the Folmer & Schwing Division, Eastman Kodak Company, Rochester, N. Y.

* * *

It is apparent from the inquiries received by the manufacturers that the dealer does not know what Professional Cyko really is and what is expected of it. For instance, they receive requests for sample prints on Professional Cyko, whereas, as a matter of fact, a print on Professional Cyko does not differ from the regular Blue and Yellow Label Cyko, unless the prints consist of comparative tests from the same negative. If a photographer makes his negatives according to what is required to produce good prints on developing-out paper, he need not trouble himself about Professional Cyko, as the regular Yellow Label will yield all there is in the negative. It is only the photographer who makes his negatives to suit platinum paper and exacts as good or better prints from the said negatives on developing-out paper, who is interested in Professional Cyko, as no other grade will accomplish that difficult feat. The Professional Cyko emulsion is compounded so as to produce great softness with contrasty negatives without sacrificing brilliancy. Some papers give the impression of softness, but in reality it is flatness—not softness. A question which invariably suggests itself to the dealer is, Why should Professional Cyko cost more than the regular Blue and Yellow Labels? The reason may not be obvious, but the manufacturers announce that it is based on facts. The emulsion has more silver. It contains more gelatine. A slight variation in temperature, as well as in a great many other details not always under precise control, unfits the emulsion for Professional Cyko, and if it does not come up to the standard of softness and tonal gradation, it must be discarded at a sacrifice of the money which it cost to produce.

* * *

Developing and Printing for the Amateur; an illustrated description of our methods, published for the benefit of those who conduct departments for the finishing of amateur work. Eastman Kodak Company, Rochester, N. Y.

In this booklet the Eastman Kodak Company has collected photographs and descriptions of all their methods and apparatus for commercial developing and printing. By reason of the innumerable methods and experiments they have tried in their twenty years of this kind of work, their ways are probably as near perfection as can be attained in the present status of photography. For this reason the book will be of the greatest benefit to those for whom it is intended, proprietors of finishing departments. A copy will be sent free to any dealer or trade developer who may apply for it, but, as we understand, only to such.

* * *

The October number of "Academy

Notes," the excellent and well-illustrated art periodical which is issued monthly by the Buffalo Fine Arts Academy, contains a review of the exhibition by the Photo-Pictorialists of Buffalo, which was held at the Albright Art Gallery during September, and described in our September number. A number of excellent reproductions of photographs accompany the article.

CORRESPONDENCE

Questions for answer should be sent to Frank R. Fraprie, 6 Beacon St., Boston, Mass., or to Dr. John Nicol, Tioga Centre, N. Y. Answers by mail will be made only in exceptional cases.

October 25, 1907.

Editor AMERICAN PHOTOGRAPHY:

Dear Sir—I have been interested in the very clear presentation of the manner of working the gum-bichromate process by Mr. T. Dundas Todd in the October number of your magazine.

It seems to me unfortunate, however, that the author should specify, in the list of necessary working materials, anything that is likely to be so uncertain as to the nature of the contents as a *"bottle of mucilage."* Mr. Todd assumes, no doubt, that ordinary mucilage is made from gum arabic, but the fact is that the basis of the commercial article, sold in bottles, is often dextrine and not unfrequently plain silicate of soda.

If a ready prepared article must be used, the officinal "mucilage of acacia," to be found at any drug store, is to be preferred, as being definite in composition and quality. It contains one-half ounce of gum arabic in each fluid ounce and may be easily prepared by dissolving the selected gum in this proportion in cold water. For photographic purposes it will be well to add a few drops of carbolic acid or essential oil of wintergreen to the mucilage, to prevent souring, and if purchased one should be sure that it is perfectly sweet, as it is an article liable to undergo fermentation.

Very truly yours,
THOMAS KENNEDY.

ANSWERS TO CORRESPONDENTS

W. M. HAWMAN.—We rarely reply "by letter" and never when the querist does not think it worth while to send a stamped and addressed envelope. There are various ways by which a photograph may be put inside a watchcase. Probably the best is by the enameling process in which the silver image in a collodion film is replaced by a suitable metallic oxide and covered with glaze that melts at a low temperature. It is then placed in a muffle furnace, in which the film is burnt off and the glaze fused. Success in this method, however, can come only from long practice and experience.

A very fair imitation of the enamel may be made by any one well acquainted with the carbon method. The best result is by double transfer, the case itself being used as the permanent support, for which, of course, the works must be removed.

The carbon tissue, the transparency kind preferred, is sensitized in the ordinary way and printed under a circular mask of such a size as to leave a slight "safe age," developed on a temporary support, washed, alumed and dried. The watchcase, perfectly clean, is coated with a solution of gelatine and chrome alum, made as follows: A quarter of an ounce of gelatine is dissolved in four ounces of water and six grains of chrome alum in one ounce. Mix the two solutions with constant stirring and apply to the case with a soft brush. When dry, the print, cut to the exact size, and case are brought into perfect contact under water, the image side down, and the finger or other substitute for a squeegee employed with the necessary force. The temporary support may now be easily peeled off leaving the picture with its golden or silvery background, a thing of beauty just in proportion to the skill and care given to it. It only remains now to varnish the picture, and the harder the varnish the more durable it will be.

This brief instruction, of course, presumes that you are acquainted with carbon printing, as if you are not it would be out of the question to give the instruction in this column. But if you are not you may find all the information you need in the *Autotype Manual* as well as all necessary supplies from George Murphy, 57 East Ninth street, New York.—N.

(Mrs.) G. Cranston.—There are on the market several Telemeters by which it is claimed that distances from a few feet to parallel rays may be ascertained by simply looking through them telescopewise, but they have never come into anything like popular use. But you need have no difficulty in learning how to judge distances near enough for all practical purpose. Half an hour's experimenting for three or four days will enable you to do so, especially as for pictorial work there is considerable latitude in focusing.

Begin by measuring the distances between the trees in your own grounds, and then walking them. Then, walk certain distances without measurement, guessing each, and then measuring them to see how near you had come; and you will be surprised to find how easy it is to come near enough at a single glance to a sharp enough image.—N.

H. Lloyd.—No, we have not changed our opinion. We are ready to admit that many good pictures have been secured by a snap, and that enlargements from such have often been awarded prizes at exhibitions and secured admission to salons; but the coming of a few swallows do not make the Summer. There are subjects and conditions under which an experienced photographer can make a picture from a snap negative, but they are few are in hand and an article on the subject ture. Experiments on the relation of temperature to time in tank development and far between, and therefore our advice still is "for pictorial work stick to the tripod."—N.

Puzzled Optician.—Don't bother yourself with the question as to whether there is a difference in speed between cemented and uncemented lenses. Experts differ in this as in most other questions; if there is it is so little as to be altogether negligible. There is no lens that "is best for all purposes"; and as you can only get one, and in your circumstances, we should recommend a rectilinear of the rapid variety and by a good maker.—N.

J. C. Martin.—Yes, wet collodion is still pretty largely employed, especially by photo-engravers and for certain kinds of copying; but to give you "full instructions for its practice" would take almost a whole number of the magazine instead of a part of the page devoted to "answers." Apply to Tennant & Ward, New York, who will probably supply you with a handbook on the subject.—N.

Kate Strachan.—The only way in which we can help you, and we wish we could do more, is to suggest that you call on those who deal in lantern slides in some of the larger cities and show them samples of your coloring. In the samples sent, which we return, the coloring is much better than the photography. Get your brother to make them thinner, that is, expose a little longer and the developing shorter. Slides for coloring should be full of delicate detail but development should be stopped before all but the deepest of deep shadows become opaque. That is, all but the deepest of deep shadows should allow some light to pass,—should, on the screen, not be quite black.—N.

James Traver.—That "the shoemaker's wife is always worst shod" is equally applicable to a photographic editor, as although we have been very much photographed for over sixty years we at this moment cannot lay our hands on a presentable portrait. But we shall keep your request in mind and may have an opportunity of sending you one in the near fushall appear as soon as they are completed. As for "the best way to make a negative through a Levy screen," only a practical engraver can deal with that, and when we find one willing to tell his secrets we shall remember you.—N.

Edwin B. Collins.—Thanks for your letter. Where architecture, child portraiture and negatives for enlargement are the staple work we should very decidedly recommend a good anastigmat, and especially one of a focal length not shorter than the diagonal of the plate employed. —N.

L. M.—The article in the August number was quoted from an English magazine, and the free light filters there mentioned are distributed by English manufacturers to buyers of their plates. As far as we know, no American plate manufacturer makes light filters fitted to his plates. They can be obtained at moderate prices from every large dealer, however —F.

Velma Cole.—Various preparations for sensitizing paper are sold by stock houses. Why not write to some of the firms who advertise in our pages? If you want to make your own solutions, blue-print and kallitype formulas are to be found in most of the photographic reference books, or we can furnish you, at 25 cents each, with Photo-Miniatures on each subject.—F.

W. M. Nichols.—It is impossible to give any directions for converting a shed into a studio without specific information as to dimensions and exposure. Even then opinions might differ as to the feasibility. In general a studio should be of considerable length, especially for the narrow-angled lenses an amateur is likely to have. A side or top light may be used and either must be provided with curtains and reflectors so that the direction of the light may be controlled. Inspect the studio of a local photographer, and you will get many hints. We can furnish a Photo-Miniature on "Studio Construction" at 25 cents.—F.

RECENT PHOTOGRAPHIC PATENTS

Abstracted by F. C. Beach. Copies of any of these patents may be obtained at 10 cents each from Munn & Co., Patent Solicitors, 361 Broadway New York City.

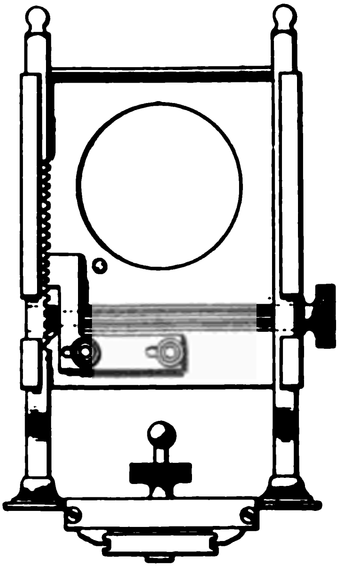
August 13, 1906.

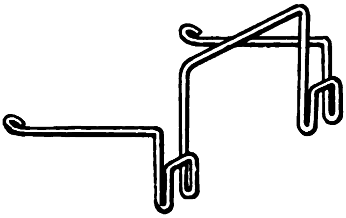
862,883. ADJUSTABLE STANDARD FOR CAMERA LENSES. **Frederick V. Conley**, Rochester, Minn.

The arrangement consists of a special construction in the sliding base working in the usual runway supporting the lens standard, whereby the standard may be firmly and quickly locked as well as released at any point on the runway. The small knob shown behind the usual lock nut is part of a special cam and lever for locking the standard. The upright standards are of special metal construction as well as the cross portions of the lens board. The shaft with thumb nut on the side operates the lens board up or down and by a sliding movement automatically causes an angle shaped latch to engage in a toothed rack on one side for the purpose of locking the lens front in any position it may be moved to.

863,114. PHOTOGRAPH HOLDER. **William H. Stevens**, Temple, Texas.

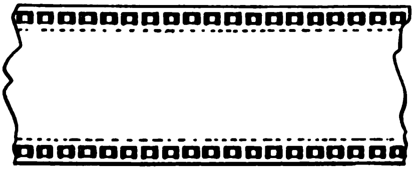
A wire holder made of one strip of wire bent as illustrated. The two smaller loops hold the





photographic card while the larger loop supports the back of the card. The rear portion rests upon the table or support.

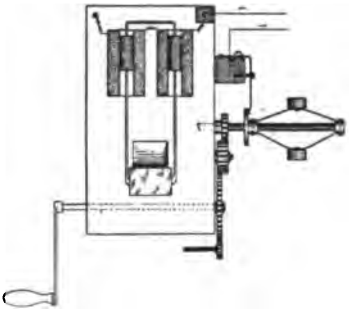
863,141. MOVING PICTURE FILM. C. J. Bensinger and M. R. Euller, Findlay, Ohio.



The improvement consists in lining the picture side of the film on the edges with a thin metal or steel tape punched to match the holes in the film, the punched portions of the tape going through the holes and bent back against the film, which firmly holds the reinforcing tape on the film. The object is to strengthen the operating apertures and prevent them from being torn as well as to protect the coated side of the film from being scratched.

863,517. GOVERNOR CONTROLLED SAFETY SHUTTER FOR MOVING PICTURE MACHINES. Fred G. Dustin, Minneapolis, Minn.

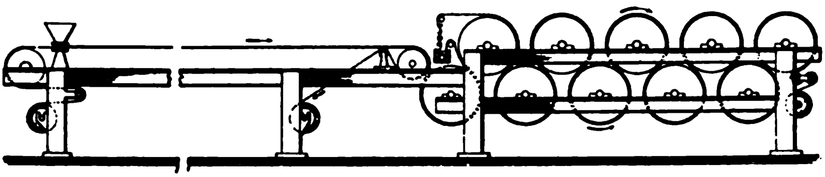
The illustration shows the front portion of a moving picture machine with the lens portion removed. On the right is the propelling crank. The gear wheel on the left end of shaft operates the pinion for moving the film, which also meshes in a gear that in turn operates a governor having a disk at its rear end. As the speed of the machine is increased the governor disk is drawn outward and presses against an electrical contact spring, closing a circuit through two magnet selenoids (shown in section), in which are movable armatures supporting on a frame, a shutter. The effect of the current is to elevate the shutter and open the aperture for the light to pass through the film. The moment the speed is reduced, electrical contact is broken on the governor and the shutter falls, intercepting the light. The purpose of the improvement is to automatically cut off the light from passing through a celluloid film when not in motion and thereby prevent undue heating and accidental ignition.



August 20.

864,123. METHOD OR PROCESS OF COATING NITROCELLULOSE FILMS. F. M. Cossitt, Binghamton, N. Y.

The process consists in forming a nitrocellulose film on a traveling apron or instead on a large cylinder, the liquid being fed upon the apron from a hopper shown at the left, then in drawing the formed moist film off from the apron and passing it over a heated drying cylinder, thence while still wet through a gelatinous solution to evenly coat both sides, thence over several drying cylinders shown on the right; after which it is wound up as a finished product on which may be coated, in a similar way, a sensitized emulsion.

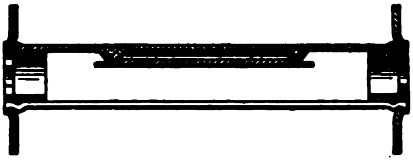


August 27.

864,268. SPOOL FOR PHOTOGRAPHIC FILMS. John W. Schatz, Chappaqua, N. Y.

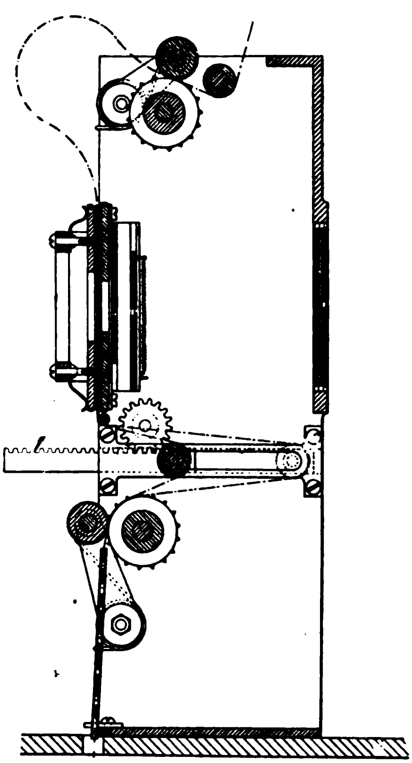
A specially formed metallic tubular spool having end sockets to fit the usual film cameras. The hub portion is depressed in the direction of its length for the purpose of forming a slit or slot in which to insert the end of the film.

It is light, strong and perfectly true and is not affected by heat or moisture as the usual wood spools.



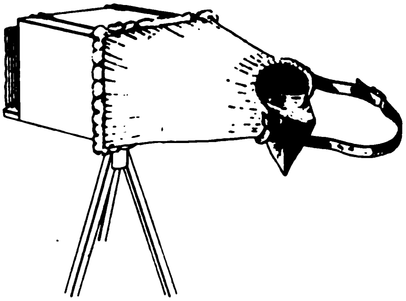
864,314. INDEPENDENT FRAMING DEVICE FOR KINETOSCOPES. Jean A. Le Roy, New York, N. Y.

In the upper portion of the illustration the feeding mechanism feeds the film out in the form of a loop to allow for adjusting the position of the picture as the film passes before the lens aperture to a proper framing or centering as the film passes over a special roll to the pulling mechanism below them out through a long, narrow chute to the receiving receptacle. The special roll is adjusted inward or outward by means of a gear wheel meshing in a sliding toothed bar which carries the roll. In this way the position of the picture on the film is quickly adjusted independent of the feeding and taking-up mechanism.



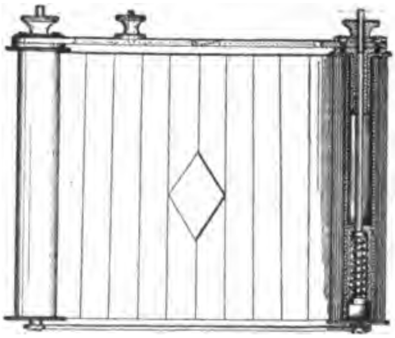
864,406. FOCUSING HOOD FOR CAMERAS. F. Buchhop and Henry Nieman, New York, N. Y.

Two tubular telescopic rectangular frames are made to permit of lateral and vertical adjustment whereby the large end of the hood may be fitted around the exterior of different sized cameras within certain limits. Over the frame is secured the hood cloth and four elastic bands with hooks on the end, hook over the front portion of the rear part of the camera as shown to hold the hood snugly against the camera. The viewing end of the hood is also stiffened with a wire, and is provided with a strap to go around the head and a mask cloth below to perfectly exclude any under light. The construction enables the operator to see the image on the ground glass clearly and comfortably in windy weather.



864,643. DEVICE TO ENABLE PHOTOGRAPHIC PLATES TO BE EXPOSED IN SECTIONS. William B. Henderson, London, England.

The improvement consists of a rigid frame with a roller at each end that is fitted into the rear of a camera in front of the plate or ground glass far enough away to allow a blurry outline of whatever aperture in the shielding curtain is used. Around the rollers is wound a cloth or heavy paper curtain with any desired shaped aperture cut in same. Lines are made on the curtain and an indicator is placed below to enable the operator to determine on the outside just where each aperture is. The operation is very simple. If an exposure is to be made at one end of a plate first, the right hand roll is rotated by its milled head until the aperture in the curtain is drawn into the desired left hand end section. Exposure being over, the curtain is advanced to the right still further and another exposure is given, and so on. The inventor states by this means a person can be photographed in two or more positions, as, for example, shaking hands with himself.



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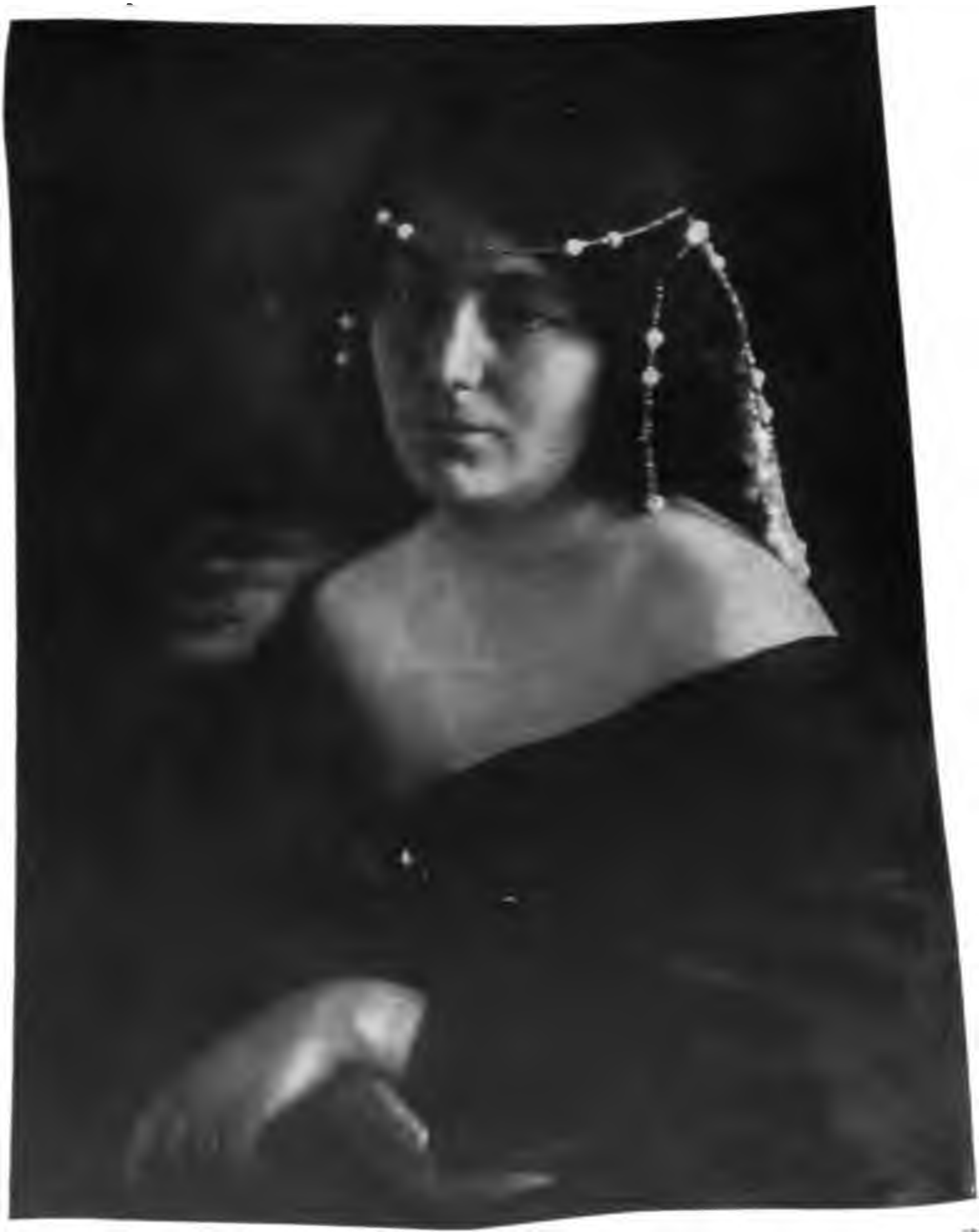

PORTRAIT

R. I CREEKOOP

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VOL. I. DECEMBER, 1907 No. 6

UNUSUAL CAUSES OF DEFECTIVE NEGATIVES.

BY F. DUNDAS TODD.

Recently I had a few spare hours on my hands while visiting in a small town in a far Western State, and I proceeded to kill them by calling on one of the local photographers. He happened to be a young man with no studio training at all, but evidently possessed of decided pictorial taste and a desire to become a good clean workman.

I found his work very uneven. Some of his negatives were just as good as the average photographer could make, but many were rather fuzzy in definition, others were hazy, as if slightly fogged, while many others had both defects. He could not account for these poor negatives and invited me to help him out.

His camera was an 8 x 10, with sliding back, and evidently had seen considerable service; in fact, he had bought it second-hand. It looked to me that it deserved close inspection, but before I made a start, I thought it wise to take about twenty of his negatives and arrange them according to their defects, as possibly they might suggest something. This done, I found most of the full-length figures were fairly sharp and clear of fog, but that most of the busts were fuzzy. All his baby pictures were both out of focus and fogged. The margins of all the negatives were clear, so the fogging did not occur during development.

Thinking over these facts, I arrived at two important conclusions. A baby sitting usually means waiting quite a while for an opportune moment to make the exposure after the slide has been drawn; therefore there must be a defect in the camera between the shutter and the plate. Regarding the fuzzy focus I argued that since the farther the object is from the lens the greater the depth of focus, and since his full-length figures were fairly sharp—that is, the comparatively distant objects—and all his busts and baby pictures were out of focus—that is, the comparatively near objects; therefore the ground glass and the plate were not in register.

The next step was to prove or disprove these conclusions. The plate-holder was placed in position, the back of the camera removed and placed on a convenient table. A piece of mount was slipped down the side of the back until it touched the ground glass squarely, and then with a sharp pen-knife a line was drawn on the mount to show the depth of the recess. The plate-holder was then slipped into position and we found a difference of almost one-sixteenth of an inch between the two. The woodwork was in excellent condition, and it was therefore clear that the fault was inherent in the camera from the moment it left the factory.

I expected the fogging problem to give me more bother, because the original front board of the instrument had been lost and in its place was one of soft wood entirely devoid of stain of any kind. On removing it, I was not at all surprised to find that it was badly warped, but I was not confident that this was the real cause of the fogging, as the hole in the inner front board was just large enough to permit the tube of the lens to enter. I replaced the front board and lens, closed the shutter, removed the back and then pointed the instrument to the skylight. Putting my head almost into the instrument and wrapping the focusing cloth closely round me, I glanced towards the shutter to see if there was any leak there, but my eyes never reached the objective point, as a great light struck me from above, one extending right across the 12-inch bellows from a very decided crack in one of the folds. There was no need to investigate further, and I realized why busts were foggy while full-lengths were clear. The former demand a longer draw of the bellows than do the latter, so the short focusing cloth did not cover the crack, as it usually did with the shorter draw.

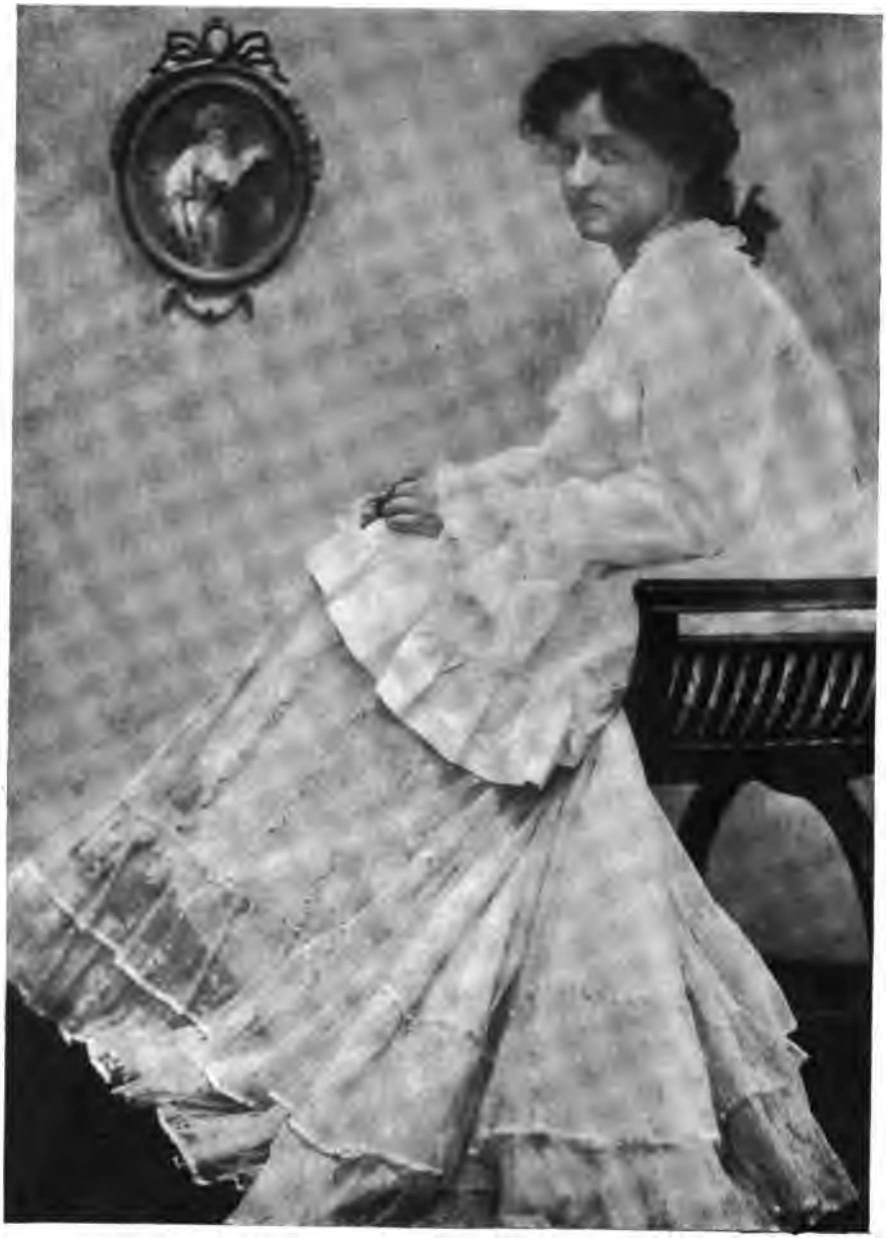
The troubles being located, I was able to advise as to the remedies. For the lack of definition I recommended the gluing of a thick enough layer of brown paper along the edge of the plate-holder; for the fogging, the covering of the crack with a sheet of thin rubber by means of rubber cement.

When I parted with the photographer he was in a very cheerful frame of mind, and I felt good over having solved a problem. In my experience, one trouble is easy, but two combined are apt to be serious, because it is sometimes difficult to distinguish between fuzziness and fog.

Many of my readers will be apt to suppose that only a novice like this photographer would be annoyed for any length of time with such troubles, but such is not my experience. Less than a year ago a photographer who had been in business for over a dozen years and who has taken medals at the National Convention, asked my opinion as to the cause of his poor negatives. Half the time they were wretchedly fuzzy, but the very next lot were all that could be desired. I went to his studio and in a few minutes discovered that a lost screw in the back permitted the ground glass at one corner to swing forward a quarter of an inch. Sometimes it did and sometimes it did not, and so with each exposure he had a guessing competition. Nowadays his negatives are all sharp.

I am rather sensitive on the subject of defects in cameras, as I have vivid recollections of losing many hundreds of dollars fourteen years ago through a defect in the cementing of the bellows of a small instrument I was using. Sometimes my negatives were beautiful, but the average run were very bad, and I had almost developed a case of nervous prostration until I located the trouble.

Only a few months ago I had to test an absolutely new 5 x 7 view instrument that was making poor negatives. To make the test I removed the lensboard and inserted the bulb of an electric drop light, wrapped cloth



PORTRAIT

R. DUEHRKOOP

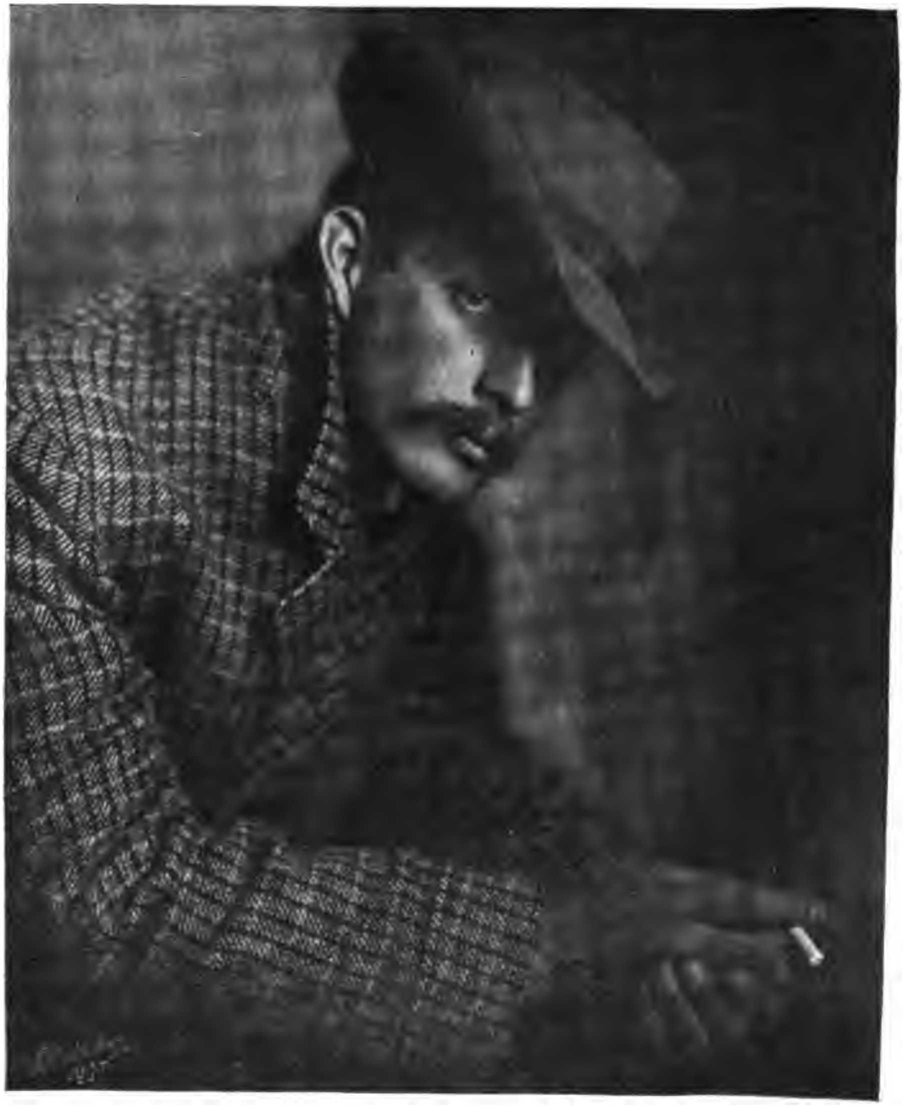
DECORATIVE STUDY R. DUEHRKOOP

round the aperture, turned off all the other lights in the room, and in an instant I found a small streak of light proceeding from a point in the front board where the bellows was insufficiently attached to it. I closed the pinhole with a little lampblack mixed with fish glue and had no more bother.

In conclusion, let me say that if any of my readers are addicted to experimenting with home-made apparatus they must often feel the need of a dead black varnish. The most convenient in my experience is composed of fish glue, lampblack and water. Use just enough glue to make the lampblack adhere when the varnish is dry; the quantity can be found by a simple experiment on a small bit of white wood. Of course it will not keep unless an antiseptic be added, but I never wanted it to keep, as I could make all I wanted in a few minutes.

BURNING MAGNESIUM RIBBON.—Some workers find considerable difficulty in burning magnesium ribbon properly. It burns irregularly, and frequently goes out. If the length of ribbon is pinched slightly between a folded piece of emery paper and drawn through in once or twice, the film of oxide with which it is coated, which is the cause of irregular burning, is removed, and there should be no further trouble.

Exposures for stereos should always be given with a shutter or some other device which exposes both lenses simultaneously for exactly the same period.



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WORDS FROM THE WATCH-TOWER.

THE WATCHMAN.

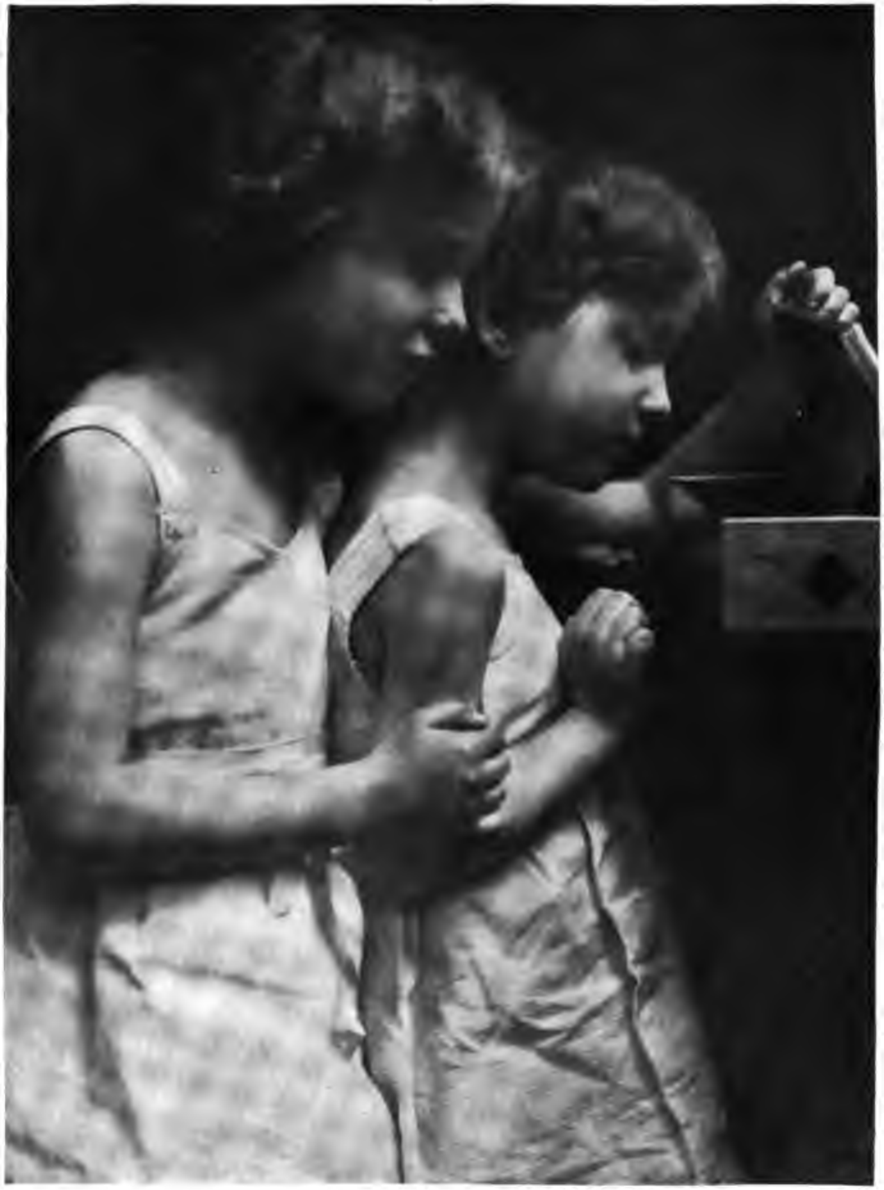
Of all that during the past few weeks has been written about the Lumière Autochrome plates, the lucubration by Frank Morris Steadman in a recent number of *Camera Craft* "takes the cake." I have indulged in a few smiles at some of Frank's writings before. Frank is an enthusiast, and like others of his kind is apt to let his enthusiasm run away with him. The fact that some at least of his most cherished ideas are forgotten long before they can take hold never seems to dampen his courage. After telling us how to do the "timing" in his old way by a hole in a note book, and that the production of results that even the man in the street must acknowledge as color photography direct from nature is absolutely automatic, he makes the wonderful suggestion that Germany, France, Great Britain and the United States should remove the patent protection from the plates by paying the Lumières such a sum as would be satisfactory to them, and then see that only sufficient of the plates were made to satisfy the demand, and at a price that should just yield a sufficient profit to the makers.

Would Mr. Steadman kindly tell us what there is about the plates to patent, or where and when they were patented? An examination of the back numbers of this magazine will show that again and again the method, all except the use of starch granules, has been published or suggested; and, so far as I know, there is nothing to prevent Mr. Steadman or anybody else making such plates but the *know how*. The Lumières have that, and if the thousand plates per day, the present capacity of their factory, according to Steadman, are found too small for the demand, they are business men enough to enlarge it; so that I have little doubt that in a short time there will be on the market enough for all.

While speaking of the Autochrome plate, I am glad to say that the Royal Photographic Society has awarded its medal to the Messrs. Lumière, as, in the words of Mr. Mummery, the president, "recognition of the great step forward in the shape of the Autochrome plate;" quoting at the same time the opinion of a distinguished member of the Royal Academy to the effect that although he had been prepared for good reds, blues and greens, "the excellence of the broken colors, the greys and secondary colors, was far beyond what he had expected or thought possible."

A LECTURE EXPERIENCE.—"I was lecturing recently in the south of England, and found on arriving at the hall that my reading desk was so placed that I could not see the lantern sheet, and it was only by somewhat awkwardly manœuvring between my MS. and the front of the platform that I could make sure that the slides were coming on at the right time. But I was mindful of a lecture I once attended and resolutely stepped forward at each change of slide. This is what happened, and it will prove, I trust, a warning to all lecturers for all time.

"He was a missionary, who had just returned from laboring in the



THE CASKET **R. DUEHRKOOP**

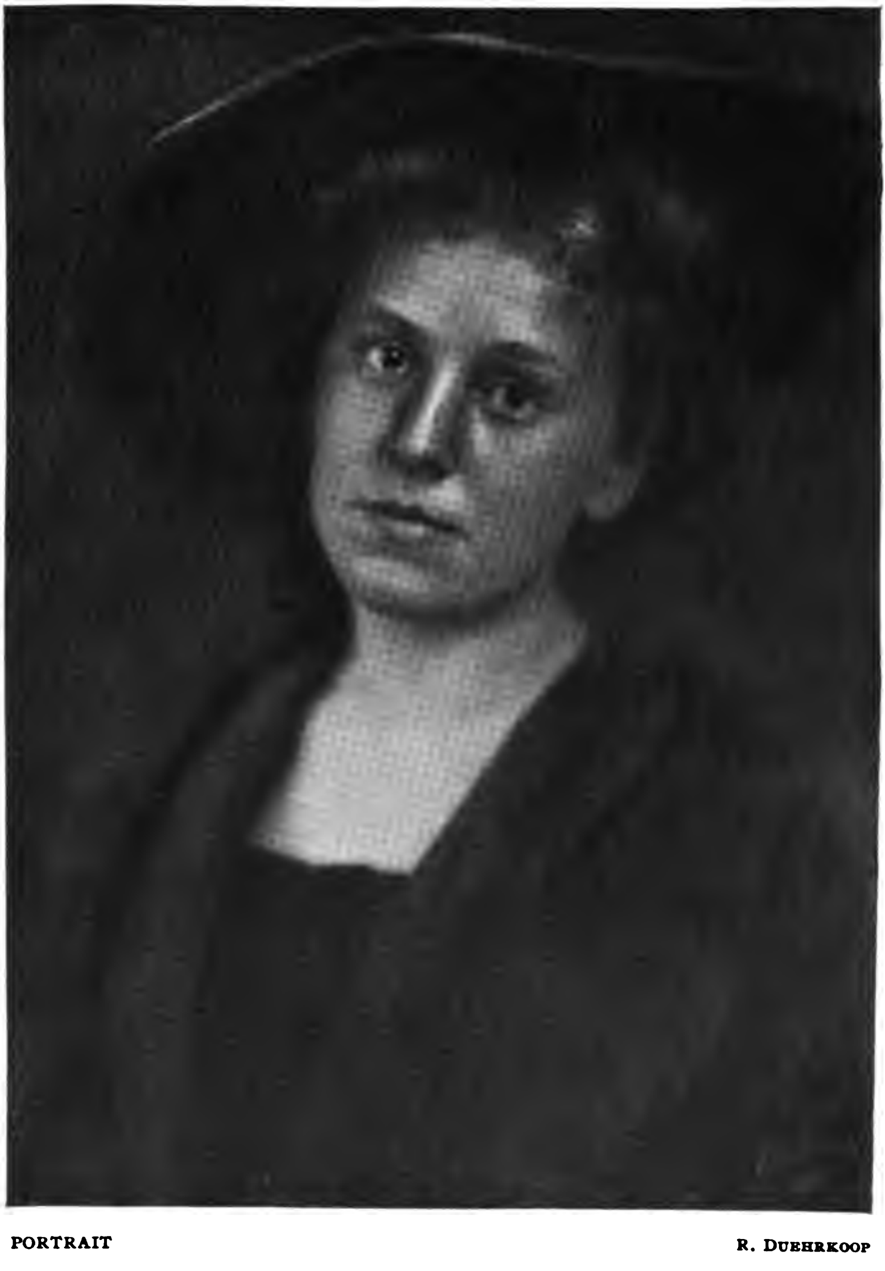
Rocky Mountains, and his lecture was an account of his work. He, too, was so placed that he could not see the screen, but not thinking it worth while to alter the arrangements, he left things as they were, and consequently never knew that the operator at the lantern had begun at the wrong end of the box, and all the slides were coming on in the wrong order. A fine photograph of a couple of buffaloes was gravely declared by the reverend gentleman to be a picture of two of his earliest and most devoted converts, and he described with great unction how one was now a lay reader, and the other taught in the mission school. A view of a Red Indian war-dance, with a number of naked savages brandishing their spears and capering excitedly round a huge fire, was described by the good man as a meeting of the directors of the home missionary society, and he asked them especially to notice Mrs. Vandyke McGregor as being the second on the right, while Mrs. McGregor, who was in the audience, had to be carried out in hysterics. A picture of clubs, bows and arrows, etc., was referred to as the weapons by which he had been graciously permitted to further his work, while he dismissed an imposing view of his own mission chapel as one of the greatest causes of iniquity in the district, and one which he hoped would be speedily removed.

"I have always looked upon that lecture as the most enjoyable I have ever listened to.—C. W. B."

I use the above extract from the *Amateur Photographer* as a peg on which to hang an advice that I have given again and again, but for which there seems as much need as ever. Few indeed will say that the effect of a lecture or a sermon read from manuscript is at all equal to either, spoken by the living voice direct to the hearing ear; and what applies to a lecture or a sermon applies ten times more to a lecture with lantern illustrations or to a lantern exhibition with descriptive lecture. In either, nothing can be more ludicrous, in my estimation, than to see a man sitting or even standing at a desk in a corner with a dark lantern in front of him trying to read a story, no matter how good it might be under other conditions; nor is it at all necessary, or it should not be so. Indeed, the man who cannot say all that he has to say while walking about in front of the platform, pointer in hand, and with his eyes giving an occasional glance at the screen, is not fit for the work and had better turn his attention to something else.

For nearly a quarter of a century I had the pleasure of lecturing every winter over at least two nations and to audiences varying from the Mechanics' Institute, with its one or two hundred, to the largest halls in some of the largest cities, with three thousand, and never once employed either desk or reading lamp, nor any one of the various audible or visual methods of telling the operator when to change a slide. And, although I say it, who perhaps should not say it, the success may be judged from the fact that the number of lectures was limited only by the time at my command, the demand being *always* greater than the time would admit of.

Of course, the lectures were prepared, and very carefully so, as was shown by two cases that I may mention out of hundreds of the same kind. At the conclusion of a lecture on the Great Pyramid, a gentleman, a very



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popular lecturer himself, who had just returned from a visit of several weeks to that locality, on rising to propose the usual vote of thanks said that although he had just returned from going over and over the pyramid outside and in several times, he had learned more from the lecture than from all his own examination. The other was the day after a lecture on Java when a mother and a son and daughter who had been at the lecture called to express their sorrow that I had not called when I visited their own garden, where stood several ancient statues that I had described, and were almost offended when I tried to convince them that I had never visited the island. The information anent the pyramid I got while assisting Professor Piazzi Smyth to correct the proofs of his great work on that ancient monument; and that about Java direct from the late well-known Mr. Woodbury.

My universal method was this: After getting up the subject as well as possible, writing out every word of the lecture, and reading it over several times, I got as many cards, of a size easily to be held in the hand, as there were slides to be shown, of which I may say there were never more than fifty—that being enough, if they were worth looking at, for any ordinary audience. On each card I wrote all the notes or memoranda necessary for a slide, and with the pack or "deck," as they are called here, I walked backward and forward on the platform in front of the screen, looking at and talking *to* the audience with an effect impossible even to the best of lecturers, who keeps his eye on his manuscript.

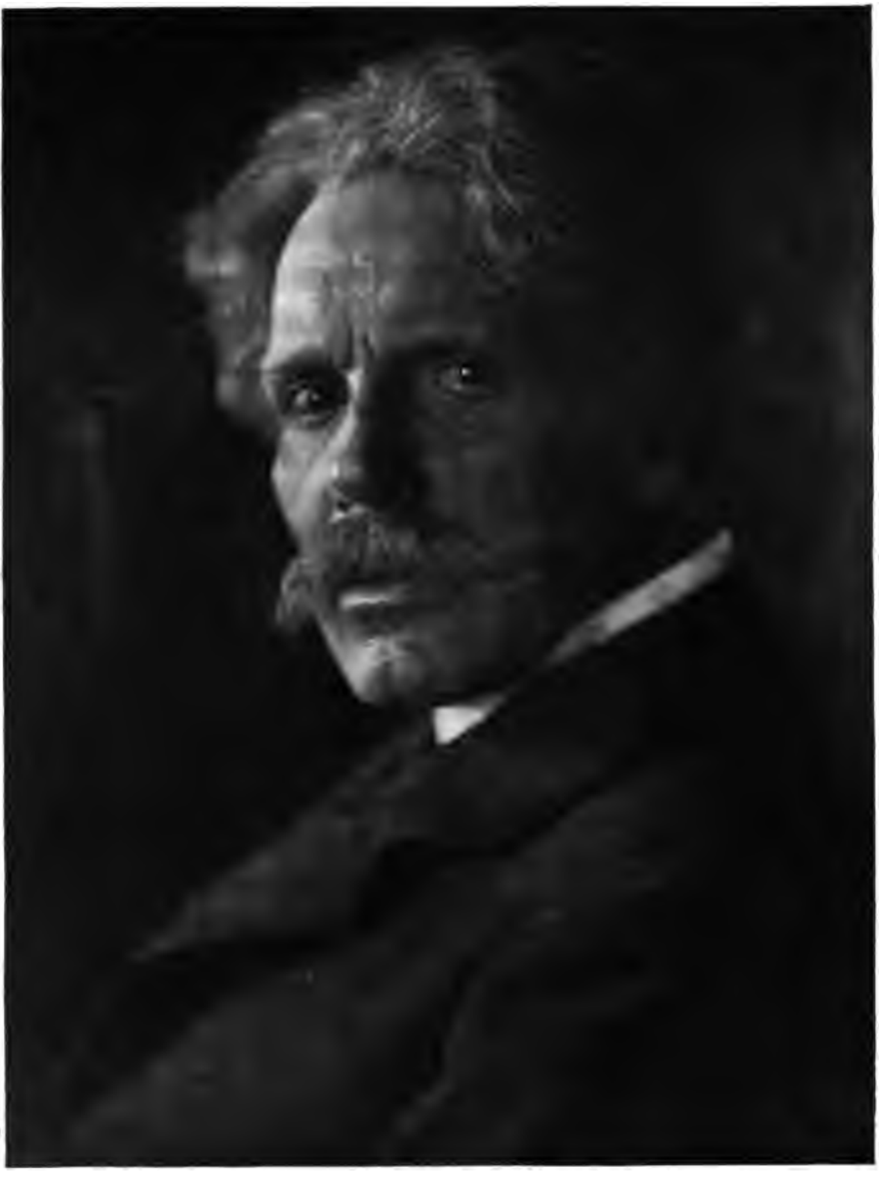
Equally effective was my method of indicating when the slide should be changed. Instead of the attention diverting sounder, uncovering of a red light, or any other of the many methods in general use, I never failed to produce the desired change by a sentence apparently a part of the lecture itself: such as "turning the corner to the right we come to, etc.," or "this leads us to the, etc."; and the lecturer and lanternist who cannot give and take such a cue are not fit for the work.

THE ISOSTIGMAR—A NEW ANASTIGMAT.

By Dr. John Nicol.

At the March meeting of the Royal Photographic Society, Mr. Horace Beck (of the firm of R. & J. Beck, London) read and illustrated a paper on a new anastigmat to which they had given the name of "Isostigmar," which had several peculiarities and for which they claimed several advantages over all that had preceded it. The paper and the discussion that followed excited my interest so that but for the tariff and the trouble connected therewith I should have sent for one for examination; and now I have to thank Williams, Brown & Earle, of Philadelphia, who have sent one for that purpose.

The peculiarity which attracted most attention at the aforesaid meeting was the fact that, contrary to the almost universal practice amongst opticians in the construction of photographic lenses, the Isostigmar does not comply



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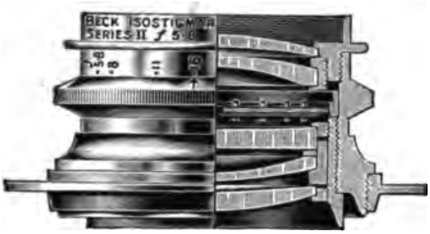
with what is known as "the Petzval condition," a mathematical problem interesting only to the optician; but its neglect is of value to the layman in so far as it enables the optician to make a combination of lenses of long focus and therefore small errors instead of short focus and large errors to be corrected. This is just what the new lens proves, as from a diagram in which its photographic performance is compared with some nine anastigmats, the output of the best or best known opticians, its superiority is abundantly evident.



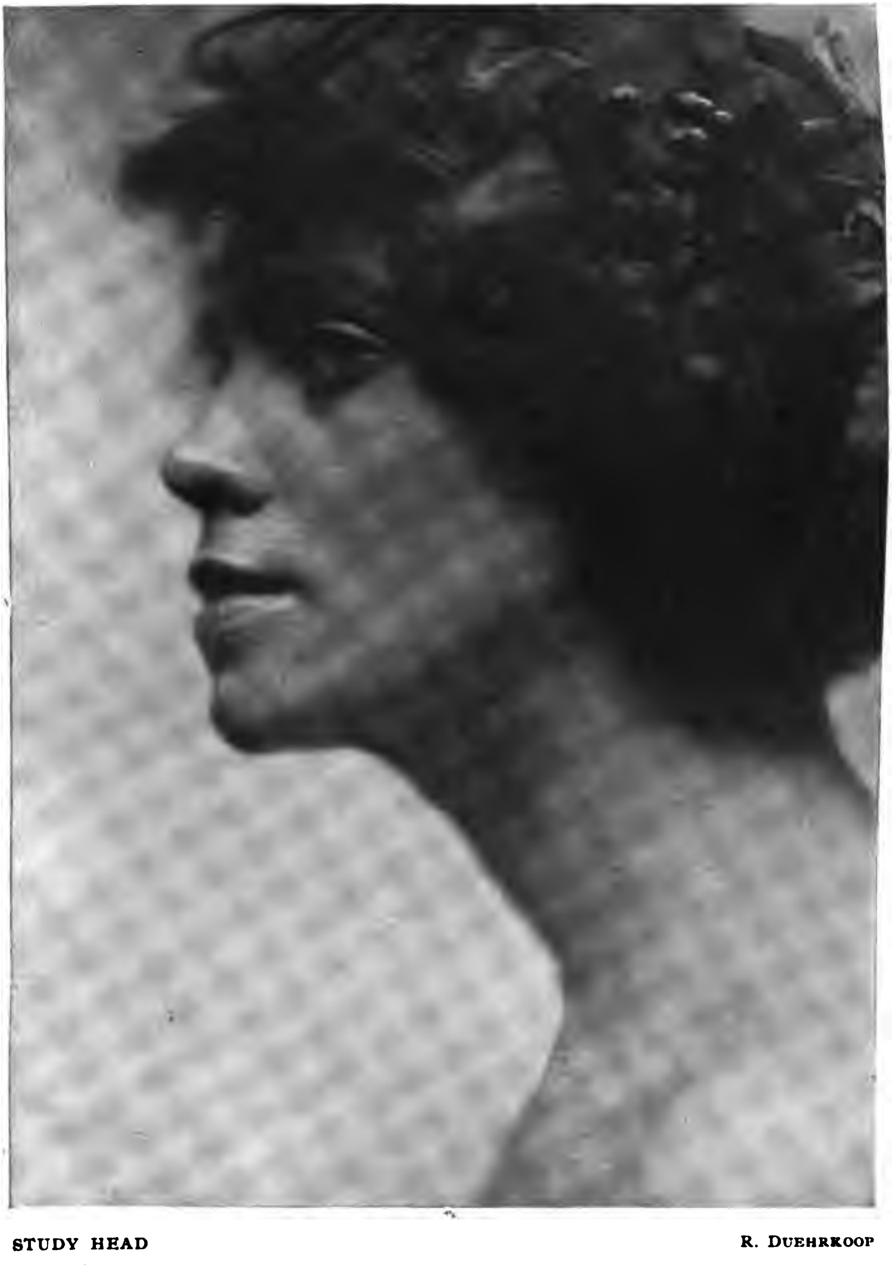
The Isostigmar, as will be seen from the above cut, is a five lens system, uncemented, or with air spaces; and the specimen in question is of six inches focus, intended for plates 4 x 5, and with a working aperture of f-5.8, although when stopped down it will cover perfectly to the edges a much larger plate, being, in fact, a first-class wide angle lens. At f-32 it perfectly covered a disc eight inches in diameter, and on a plate 6 x 4¾ the field was, so far as the unaided eye could see, perfectly flat, although when high-class measurement was applied there was seen a slight convexity between the 18 and 26 degrees; slighter, however, than is found on either of the three anastigmats by the most popular opticians which we possess.

The combination, as will be seen, is not symmetrical, although both front and back lenses are perfectly corrected, giving, in fact, three lenses of different foci, something like 6, 11 and 13 inches. Taking it altogether, the Isostigmar seems as nearly a perfect photographic lens as we are ever likely to get, and as nearly suitable for all-round work as any lens that we have as yet examined.

And it has one other advantage, and one that will appeal to photographers generally more, perhaps, than any of the others that we have mentioned—*cheapness*. For this quality we rely, of course, on the information of Williams, Brown & Earle, the American agents for the Messrs. Beck. Reference to their advertisement on another page will show that, according to their statement, the price of the Isostigmar is less than half that of the average cost of other anastigmats.

Dark cards are better for mounting stereoscopic prints than light colored ones. The dark borders help the illusion of a frame through which the view is seen.

Revolving or Waterhouse stops are usually preferable to iris diaphragms in stereoscopic work, as they are more definite when securing identical apertures for both lenses.



STUDY HEAD R. DUEHRKOOP

PROFILES

R. DUEHRKOOP

A CARBON CATECHISM.

(Continued from page 248)

Can white clouds be introduced into dark gray skies? This may be accomplished in one or two ways. It is not probable that the cloud negative will be exactly as required, and a duplicate must be made. A positive is wanted first, and may be made by any transparency process. From this the second negative is made, and it may be added direct to the landscape negative, or it may be made upon a celluloid film. Each plan has its own advantages. If made upon a celluloid film it may be employed with any landscape negative for which it is suited; but as it must be interposed between the landscape negative (should that be on glass) and the carbon tissue there will be a slight loss of definition in the landscape part of the print. On the other hand, if the cloud negative is printed direct upon the negative there will be no loss of definition and no adjustment required each time a print is wanted. If the first method is adopted the negative should be made upon a film large enough to carry the sky on the upper third, leaving the lower two-thirds clear film, and the lower edge of the sky should be very softly vignetted. This may be accomplished by shielding the lower portion, keeping the mask in motion the while. The negative should be very delicate, and the greater portion of it should be clear film, the white clouds alone having any appreciable density. In the second method the landscape negative must be hardened in chrome alum or formaline, and an exposure is made from the cloud positive on a sheet of carbon tissue, the vignetting being carried out as in making the film negative. The tissue is squeegeed upon the face of the landscape negative and developed there.

Can figures be introduced into a print in the same manner? This is an extremely difficult matter, as it is almost impossible to bring two carbon prints into exact register on the same support. It may be accomplished in the following manner: The figure is masked out in the original negative, all the surroundings being made quite opaque. A carbon print of the figure alone is made in the required position on a sheet of thin celluloid. When the print is dry and hard the figure is painted over on the reverse side of the celluloid with Bates's black, or other waterproof opaque paint. A sheet of carbon tissue is sensitized and squeegeed direct upon the celluloid bearing the figure, and is dried in the dark. Any tears of the sensitizing solution which have dried upon the back of the celluloid are cleaned off, care being taken not to remove the paint which masks the figure. The celluloid is then placed in contact in the printing frame with the second negative and the exposure made. It will be noted that only those parts surrounding the figure will receive the light. The exposure having been made, the combination print is placed in warm water and allowed to soak for half an hour or so, when the temperature is raised till the pigment begins to ooze out at the edges. The backing paper is stripped and development conducted in the ordinary manner. The finished print may be used as a transparency from which to make a new negative, in which case the paint must be cleaned off the back, or the image may be transferred to a piece of double transfer final support paper.

It should be noted that the tissue is liable, when dry, to spring off the celluloid; it must therefore be handled with some caution.

When carbon prints are intended for book illustrations or for storage in a portfolio in an unmounted state the ragged line left by the edge of the tissue is unsightly. How may this be avoided? In the first place, the safe edge must be cut neatly to the required size and shape, the composition of the picture receiving due attention, as no final trimming is to take place. Printing should be done in a frame a size or two larger than the negative, and the glass surrounding the negative should be masked with black paper. The margin of the tissue round the image always leaves a faint tint on the finished print, which varies in depth of shade as the development is checked at an early stage, or is carried out thoroughly. In other words, an underexposed print will have a dark margin, and in a fully-exposed print it may be so slight as scarcely to be distinguishable from the support. The carbon tissue must be of such a size and shape as to leave a marginal tint of suitable width, and it must be placed squarely on the print, so that the margin may be uniform all round. Guiding lines may be drawn upon the safe edge (or mask which is used in its place) to assist in securing this. A vignetted junction between the image and the margin will be out of keeping, and it may be avoided by placing the mask on the face of the negative instead of at the back, as is usual. When this is done greater care is necessary in development to prevent frilling at the edges of the image. Correctly estimated exposure and prolonged development in water at a low temperature, rather than quick development with hot water, will overcome the trouble. When the tissue is taken from the frame, a narrow strip must be cut off all round to get rid of the insoluble edges, which would otherwise leave their traces on the print. The marginal tint resembles the tint round an etching which has been printed on India paper. Such a tint round a platinum or silver print is an affectation, and is out of keeping with the process. In the case of a carbon print it is as much part of the process as the India tint is round an etching, and as such needs no apology.

How may lantern slides be made by the carbon process? The glass must be free from flaws, and it is desirable, though not absolutely necessary, that it should be coated with a substratum to hold the tissue in contact. The glass must be scoured quite clean, and a final polishing with prepared chalk and ammonia will leave it in good condition for the work. This final polishing should always be given shortly before glasses are coated with the substratum, as traces of grease are deposited upon them from the air. The substratum is made as follows:

Gelatine	¾	ounce.
Water	40	ounces.
Potassium bichromate	1	dram.

The gelatine is allowed to absorb as much of the water as possible, and is then gently liquefied by heat in a water bath. The potassium bichromate, previously dissolved in a little of the water, is then added. The simplest method of coating the glasses is to dip each into the warm solution and to stand them in a rack to drain and dry. This entails cleaning the back of glass, and those who are deft in flowing the solution over one side, as in varnishing a negative, will adopt that method of working. The plates must be protected from dust, and must be exposed to light to harden the gelatine. The tissue should be that specially prepared for transparencies, in which the pigment is very finely ground. The exposed tissue is squeegeed upon the plate in the ordinary manner, but it is well to take the following precautions. The tissue must be free from moisture before printing. To ensure this, it may be held in front of a fire for a few minutes. No more pressure should be employed in the printing frame than is absolutely required to bring the tissue in close contact with the negative. Neglect of these precautions will induce the irregular hazy patches on the surface known as pressure marks. They cannot always be entirely avoided, but when only slight may be cleared up by a coating of collodion or other clear varnish. If the tissue has been dried upon glass after sensitizing, a very slight pressure will keep it in contact with the negative, and as the surface will have been protected from the air there will be practically no deposit on the high lights; at any rate, nothing that amounts to a degradation.

What precautions are necessary in working without the substratum? The safe-edge should be separated by, say, an eighth of an inch from the surface of the negative, in order that the edge of the image shall be vignetted off very softly; the exposure should be timed very exactly, so that excessive development shall not be required; the water should not be heated above 100 degrees Fahrenheit during development, and the water in which the tissue is soaked previous to squeegeeing should have been boiled to expel the air it contains.

In what respect should a positive intended for the making of an enlarged negative differ from a lantern slide? Generally speaking, the transparency should be distinctly darker than a perfect slide should be. There must be no clear glass even in the highest lights, and at the same time the darkest shadows must not be opaque. The gradation must be much lower than for a slide. These qualities can be arrived at to some extent even when the negative is steep in gradation by giving the shortest exposure possible, followed by slight development only in tepid water.

Should window transparencies be different in character from lantern slides and positives for enlarging purposes? Window transparencies should have much of the brilliancy of lantern slides, but should be slightly more vigorous. It is an advantage to have them made on ground-glass, since that must be used in any case to diffuse the light.

How are minatures printed on ivory plaques? The image should never be applied to an ivory support by single transfer, since the bichromate which is in the tissue would stain the material yellow in an indelible manner. As the application must be the double transfer process, the ivory plaque should be polished most carefully to remove all irregularities of surface. When the print on the temporary support is dry, the following solution is made up:

Gelatine	1½	ounces.
Water	20	ounces.
Chrome alum solution (30 grains to the ounce)	2	ounces.

The gelatine, which should be fairly hard, is soaked in the water, and is liquefied by heat in a water bath, when the chrome alum solution is to be added. The solution should be filtered very carefully. The print on the temporary support is cut to shape, a little smaller than the ivory plaque, and both are to be dipped into the warm gelatine solution and the print allowed to stretch to the utmost. The two are drawn out in contact, and are to be squeegeed together. When dry the temporary support may be removed by slipping a knife under the edge, and the traces of waxing solution that are left on the face may be cleaned off with benzol. Miniatures may be transferred to watch dials and cases in the same manner.

How may carbon prints be transferred to wooden panels for decorative purposes? The grain of the wood should be filled up with French polish or varnish, and if the glossy surface is not required it may be removed with fine glass paper. The main point is that the wood shall have an impermeable waterproof covering, otherwise the grain will be raised by the moisture and the print be spoiled. The panel may also be coated with oil paint, and if coated with gold leaf will be very suitable for some purposes. The following solution has been recommended for coating the panel:

Gelatine	3	ounces.
Sugar	1	ounce.
Glycerine	½	ounce.
Water	30	ounces.
Chrome alum solution (30 grains to the ounce)	¾	ounce.

The panel should be warmed and the gelatine solution poured over it. The print is then lowered down, and if it is held by two of the corners diagonally opposite, and the middle allowed to touch the panel first, all air bells will be driven out. The two are squeegeed quickly together and allowed to dry. When the gelatine is thoroughly hard, the temporary support may be stripped off.

Is bichromate disease a serious matter? How may it be avoided? The disease takes the form of weeping sores on the hands and arms, and is a very serious matter indeed, difficult to cure and very likely to recur. It arises from dabbling the hands constantly in bichromate solution, and although some persons are more susceptible to it than others, it is largely due to want of cleanliness. Professional workers who cleanse the hands each time after using the solution escape entirely in most instances, although it happens now and again that a person with delicate skin cannot continue the work no matter how cleanly he may be. The disease is not known to have attacked those who only work the carbon process in a small way. The fingers should be placed in the solution as little as possible, and washed and dried immediately the bath is done with. Vaseline rubbed well into the skin and the surplus rubbed off may be used as a protection, but is not required if the solution is not allowed to dry on the fingers.

Can the carbon image be intensified or altered in color? When the image is on glass, as in the case of a lantern slide or window transparency, or on opal glass, it may be deepened in tint or altered in color by bathing in a solution of any suitable dye. As the image is composed of gelatine in varying thicknesses, the dye will be taken up in suitable proportions by the highlights, half-tones, and shadows. Writing ink, solutions of Indian ink, logwood, and potassium permanganate have all been recommended. The following methods have been suggested, but it is questionable if any gives as good and as permanent results as are obtained by developing the image to a suitable strength in the first instance. The image is saturated with a solution of silver nitrate, two grains to the ounce of distilled water, is quickly rinsed, and then developed with a solution of pyro one grain, citric acid one grain, water one ounce, to which immediately before use two or three drops of a twenty per cent. solution of silver nitrate are added. When sufficient intensification has been obtained, the print is fixed in hypo and washed. The formula given by E. J. Wall for the permanganate method is potassium permanganate twenty grains in water one ounce. In this the image is bathed, washed, and dried. The operation may be repeated if desired. The color given by permanganate is very fugitive in light. Another method is to immerse the image for five minutes in a four per cent. solution of sulphate of peroxide of iron, rinse and immerse for ten minutes in a four per cent. solution of sodium carbonate, rinse and immerse in a one per cent. solution of gallic acid till sufficiently dark. The color is similar to that obtained by immersing in writing ink. Any of these methods may also be employed when the print is being made up by the double transfer process, and is still adhering to the temporary support, but they are inadmissable in the case of prints made by single transfer upon paper.

What is the best way of spotting carbon prints? Water color of the required tint may be employed if the proportion of gum that is added just matches the semi-gloss of the gelatine. A method which many workers find successful is to take a piece of insensitive tissue of the same color as the print, and after soaking it in water, to lay it on a hot surface till the gelatine melts. A little of the pigmented gelatine is taken on the point of a brush and is stippled on as required. A correspondent writing to *Photography* says that he found the gelatine set so quickly that it would not flow from the brush, and detailed his own method. This was to put scraps of the tissue in a bottle with boiling water till the gelatine was dissolved and the pigment sank to the bottom. The pigment was then used for spotting. In this method it would seem that gum would have to be added to hold the pigment to the print.

How may dark portions of the print be reduced? Abrasion is the only practical method, and when small portions only have to be reduced in strength it may be accomplished with a piece of ink eraser. Broad patches are more difficult to reduce evenly. If the slightly smeary results are not objected to, Baskett's reducer may be employed with considerable success. The reducer is made by mixing a two-penny tin of Globe polish with two ounces of terebine and two ounces of olive oil. It should be applied with a piece of flannel or chamois leather, and the grease which remains may be wiped off with a rag moistened with benzol. As the reduced parts receive a certain amount of polish it is necessary to go lightly over the whole surface to equalize matters. The method is not suitable for prints on rough surface papers.

Is it possible to tell whether sensitized tissue is in good condition or not without the trouble of making a print? All that is necessary is to take a scrap of the paper and immerse it in water at a temperature not exceeding 100 degrees Fahrenheit. If the gelatine melts freely, leaving the paper white, the tissue is in good condition. If the gelatine refuses to melt, or if the surface leaves the support in flakes, the tissue has deteriorated, and is not fit for use. The tissue which has become insoluble even on the face only will refuse to adhere to the support, and if the insolubility should be so slight as to permit of adherence, the high-lights will be degraded.—*Photography.*

SMALL ENLARGEMENTS.

By H. J. B.

It is a popular idea with many photographers that an enlarging lantern is of no use unless for the production of pictures of some size, something larger, at all events, than the humble quarter-plates or 5 by 4's that the ordinary man secures with his camera.

It never occurs to these workers that enlargements of the same size as their negatives would often—more often than not—give them pictures more pleasing to the eye of the man in the street and more pictorial from a photographic point of view than contact prints from the same negative. Yet such is the case.

The expression "enlargements of the same size" sounds paradoxical; but it is correct. What is meant is that the enlargements have the same surface measurements as the negatives, but that only a small portion of the latter appears on the paper on which the enlargement is being made. Thus from a quarter-plate negative we may select a piece the size of a postage stamp and make a quarter-plate picture of it.

The reader who asks what is the sense of that, has not yet realized the fact that many of his quarter-plates contain a wealth (or perhaps "abundance" is a better word) of detail which precludes all possibility of a contact print being in any sense a picture. There are perhaps three or four objects on the small negative, each of which competes with the others, and not only robs them, but is robbed by them, of the concentration of interest without which pictorial photography is impossible. If, however, instead of one print with four objects of interest, each asserting itself to the detriment of the others, we make four enlargements, one of each of those objects of interest, it may be that we shall have four pictures.

The idea of getting four pictures from one quarter-plate negative may seem rather far-fetched, and, to prevent any one running away with the notion that a photographer should be able to get four pictures from one small negative, perhaps it should be mentioned that the suggestion of the "four in one" negative is used mainly for the purpose of emphasizing the point. The four pictures is not an impossibility, but more probably our quarter-plates will give us only one picture, which means that most of what went to make up the negative is useless pictorially; that, in fact, if when we were exposing the plate we had selected a small part of the view and had placed our camera nearer to it, or had used a lens of longer focus, we should have got all that was necessary or desirable. That is so, and we should also have been saved the trouble of enlarging at all. Unfortunately, however, the faculty of selection is not always so marked when we are exposing our plates as it is when we have the negatives before us; hence the use of a small enlargement of a small part of a negative.

Exercising the faculty of selection in this manner will also be of assistance when the worker aims at something larger than enlargements of the size indicated. If you submit a print to the editor and ask what is wrong with it, he will probably tell you that it wants trimming; and if you trim off a considerable portion and again ask what is wanted, as likely as not you will be told that it wants considerably more trimming. By the time you have again applied the knife or the scissors your print, originally 10 by 8, may be reduced to something about half-plate size. At that, however, it will probably be a picture, whereas the 10 by 8 print was merely a photograph. If, however, you had been able from your small negative or from a contact print from it, to select exactly the bit which, when enlarged, would make the picture, you might have proceeded straightaway to enlarge that bit on to a piece of half-plate paper, which would have been cheaper.

Of course, the advanced worker may tell you that the faculty of selection can be best exercised only when the enlarged print is before you. But we are not all advanced workers; some of us—most of us, indeed—are merely workers striving to-day to do something which is better than that which we did yesterday, and buoyed up with the hope of eclipsing to-day's work by that of to-morrow. And it is humbly submitted that what we have called the "small" enlargement will be of considerable assistance in bettering our work.

It may be urged, however, that small enlargements will assist even the advanced worker. Many a big enlarged bromide print has been made with the only result that it has served to show the maker that there were absolutely no pictorial qualities in any part of his negative; and perhaps, with this knowledge gained, he has felt that his expenditure of time has not been wasted. He may not feel the same, however, as regards his expenditure of money; and that he might have saved to a larger extent by carefully studying a contact print from his negative. From that study he could surely have narrowed the pictorial possibilities of his negative down to say one part of it; and a quarter-plate enlargement of that one part would have been just as illuminative as, and infinitely cheaper than, his big enlargement of the whole negative.

Don't imagine, therefore, that large prints are the necessary complement of an enlarging lantern. Small enlargements may be pictures in as great a degree as large ones. And at the very worst they are very much better than contact prints, unless in those rare cases when we have been unusually careful, or lucky, in our selection of what to include in our negatives.—*The Amateur Photographer.*

WARM TONES ON BROMIDE PAPERS BY DEVELOPMENT.

F. J. MORTIMER.

The impetus given to the already popular process of bromide paper printing during the past year or two by the introduction of a modified and simple sulphide toning bath, is a sure indication of the esteem in which warm-toned prints are held by the majority of amateur photographers. A sulphide-toned bromide or gaslight print can be regarded as being as permanent, at least, as the untoned print, and a properly prepared bromide print is, under ordinary circumstances, as permanent as can be desired for the perpetuation of most photographs.

The fact remains, however, that a toning process, no matter how simple, means an additional operation, and the sulphide bath, in common with other bromide toning baths, is limited in its range of color, being capable of giving practically only one tone, while, to produce the best results with any bath, the original print has to be either specially prepared for toning or has to be correct in the matters of exposure and development, color and density.

It is not proposed to advocate careless working of a process that will permit of compensating after-treatment to cover defects, but at the same time it cannot be overlooked that the average amateur who uses bromide paper does not invariably produce a perfect print as a result of every exposure made.

Now, of all the printing processes at present known to the photographer, bromide and gaslight papers can claim to possess the greatest latitude in the matter of exposure.

This advantage is accompanied by a corresponding extensive range of tones and colors which follow every variation in exposure and suitably adapted developer.

That this fact is not fully appreciated by the majority of amateur photographers is evidenced by the avidity with which they have seized upon and used the popular toning methods advocated from time to time for the production of warmer tones than are obtained with normal exposure and development.

Taking full advantage of errors of exposure to produce definite differences in color appears to have been overlooked, while the systematic production of warm tones by over-exposure and prolonged development appears to have been deliberately considered in only a very few instances.

In view of its greater rapidity, bromide paper claims greater attention for the production of direct enlargements than gaslight paper, although there seems no doubt that the latter under normal conditions will give finer and richer black tones, with the added consideration that a dark-room is unnecessary for its manipulation.

It is, however, with the production of warm tones on bromide papers that we are concerned at the moment, and the photographer who makes an extensive use of the process will not be long in discovering that, if not desirous of always retaining the characteristic color of a correctly exposed and developed print, he has a process that presents such flexibility that failures from over-exposure should never occur.

It is already well known to every bromide worker that over-exposure yields prints altogether different in character to those that have received correct exposure.

We assume here that correct exposure is the exposure that is generally accepted for the production of black tones with a certain development. The idea that a greater exposure that will always give any other color with a certain development cannot be regarded as equally correct, must be put down to the conventionalism of nearly a generation of bromide-paper users.

For black tones a certain exposure and development are necessary, no matter what the developer may be. Pyro, under certain conditions, will give as black an image on bromide paper as ferrous oxalate. If any developer used to produce black tones is applied to a print that has received more than the normal exposure, a flat dirty-colored image is produced. If a restraining agent, such as bromide of potassium, is added to the developer, the gradations of the image will be produced so that contrast is restored, but the color will be different, and probably disagreeable. Investigations have shown that a pleasing range of tones can be obtained by careful observance of the relative proportions of exposure, amount of restrainer used and the dilution of the developer. In addition to this certain developers have been found to more readily give warm colors, and certain brands of paper appear more amenable to the treatment than others.

Pyro, used either in a simple pyro-soda formula or in conjunction with some other reducing agent, preferably metol, stands easily first as a developer for warm tones on bromide papers.

Adurol and edinol will also be found to yield warm tones with considerable ease, but in all cases the main factors that govern the result are the exposure and the relative dilution of the developer.

The following pyro-soda developer will produce a fair range of tones from black to bronze brown:—

A.—	Pyrogallic acid	½	oz.
	Sulphite of soda	3	oz.
	Citric acid	1	drm.
	Ammonium bromide	1	drm.
	Water	10	oz.
B.—	Carbonate of soda (cryst.)	½	oz.
	Sulphite of soda	1	oz.
	Potassium bromide	1	drm.
	Water	10	oz.

With twice the exposure that has been ascertained to be correct for the production of black tones with the normal developer employed, this formula will give rich warm black tones. For use, take 30 minims of A and 80 minims of B, and add four ounces of water. Double the exposure, double the quantity of water, add 20 minims of a 10 per cent. solution of potassium bromide and the color produced will be very much warmer.

Further increase of exposure will tend to produce still warmer tones, but it must be borne in mind that the developer must be proportionately diluted and more bromide added.

Later experiments with pyro as a devloping agent for the production of warm tones on bromide papers have shown us that a greater range of tones can be produced with far less chance of staining the paper, if metol or hydrochinon forms one of the constituents of the developer. In any case it will be observed that an apparently abnormal quantity of sulphite of soda is present in the formula. This has been found necessary with any developer for prints in which pyrogallic acid forms a part, to counteract its staining propensities. This additional quantity of sulphite does not appear to be required when edinol or adurol, or, in fact, any other developer than pyro is employed.

The following modification of a formula we have employed for a considerable time in the production of warm-toned bromides will be found to give a variety of tones. It will soon be discovered, however, that different makers' papers give an entirely different range of tones with exactly the same treatment, and a tone that is easy to obtain and repeat on one brand of paper is difficut to reproduce with the same developer and exposure on another.

With the formula given below, however, it will be found that tones ranging from warm black through olive-sepia, cool-brown, golden-brown, pinky-brown, to a red tone similar to that obtained by copper toning, can be obtained.

The following is the formula:

A.—Pyrogallic acid	30 grains.
Metol	30 grains.
Sulphite of soda	1 oz.
Bromide of potassium	30 grains.
Water	20 oz.
B.—Carbonate of soda	3 oz.
Sulphite of soda	½ oz.
Water	20 oz.

For use take equal parts of each. With a normal exposure a pleasing warm black tone will be obtained. If development is completed too soon the tones will suffer. The longer the development takes the richer the color will be, and the better the rendering of the shadow details. The developer should, therefore, be diluted considerably if the negative shows any indication of flatness. With a plucky negative this precaution will not be so necessary.

Here again, as with the pyro-soda formula given above, the resultant colors depend, to a great extent, upon the amount of the exposure and the quantity of the restrainer and water added. A 10 per cent. solution of bromide of potassium should be kept for the purpose, and the following exposures will approximately indicate the colors obtained.

As an example, we will take a negative of normal density and contrast that requires, say, ten seconds exposure for black tones with amidol or metol-hydrochinon developer. With fifteen seconds exposure and the above formula, using 1 oz. of A, 1 oz. of B, and 2 oz. of water, a warm black tone will be obtained. With twenty seconds exposure, 4 oz. of water added to the developer, and 10 minims of bromide solution, the color will take on an olive tint. With thirty seconds' exposure, 16 oz. of water, and 30 minims of bromide, a bronze-sepia will be given, while with sixty seconds exposure (six times the normal), and the developer diluted with 80 oz. of water and 60 minims of bromide added, a pleasing red color will be obtained.

The production of these tones upon different brands of bromide paper opens up a wide field for experiment, but the foregoing can be taken as a guide. The ease with which warm tones can be obtained in the one process of development will, doubtless, convert many to the practice who at present rely upon various toning methods for the purpose.—*The Photographic News.*

CONTROL OF OVER-EXPOSURES.

While experimenting along different lines a French scientist has noted down some interesting experiences which are worthy of further experiment:

"Supposing a plate or bromide paper be given a very long exposure and then be immersed for four minutes in a 1 per cent. solution of potassium ferricyanide, then rinsed and developed, the image appears slowly, without the slightest trace of over-exposure. The particular developer used was—

Potassium bromide	8 g.
Sodium sulphite anhydrous	140 "
Hydrochinon	34 "
Caustic potash	50 "
Water to	1000 ccm.

For use, dilute with 5 parts of water.

In the case of enlarging from a negative, the normal exposure for which was 5 seconds, no less than 300 seconds was given, yet after treatment with the ferricyanide a perfect print was obtained showing no trace of over-exposure.

Should these statements be confirmed the practical outcome would be that one has merely to be quite sure, either in outdoor work or bromide printing, to give a sufficiently long exposure, then to treat with ferricyanide and develop and be sure of good results. This reduces the question of correctly estimating exposure to a negligible quantity, and one would be able to give, say, 30 seconds outdoors and always 5 minutes for bromide printing and get good results.

The developer used for bromide papers was the following:—

Metol	3 g.
Hydrochinon	5 "
Sodium sulphite anhydrous	45 "
Sodium carbonate	45 "
Potassium carbonate	15 "
Water to	1000 ccm.

For use, mix 1 part with 3 parts water and 1 part of 1 per cent. potassium bromide solution.

RETOUCHING.

ARTHUR STANLEY.

If I were asked to point to the most striking difference between the work of the professional and of the amateur portraitist I should be inclined to indicate that it lay in this, that the professional has a tendency to over-retouch, while the amateur rarely attempts to do it at all, even to the extent of removing imperfections in the film. It is my aim in this article to try and get some of my fellow amateurs to make the plunge and to attempt a little retouching. They will be surprised to find that it is by no means so difficult as most people imagine, at least in its simple forms, though to retouch *alterations* into a negative requires a great deal of skill. My article is only intended to deal with the elementary work, taking out pinholes and other trifling defects, making freckles less visible, and probably slightly lightening shadows. Let those who have never tried it only make a beginning, and they will find that there is much they can do without the need of any great skill, while if they have the inclination and ability they can go on to greater triumphs and to more ambitious work.

The absolute necessaries are not many, but it is futile to work without them. It is not practicable to apply pencil touches to a negative unless its surface has been properly prepared to receive them. If the preparation is omitted the pencil may take, or it may not; in either case it will not take properly. Then it is useless to hold the negative up to the light inconveniently and try to work on it. It must be supported so that both hands are free and the muscles of neither arm in a state of strain. These do not call for much elaborate apparatus, but a little preparation must be made. The pencils and the retouching medium will have to be bought; the desk can be extemporized or made. The best pencil, for the first attempt at any rate, is the ordinary HB, which should be bought of the best possible quality, and sharpened to a far more tapering point than that used for making notes. The point of the lead should be at least an inch—preferably an inch and a quarter—from the commencement of the taper, which should be smooth and even. This can only be got by sharpening a good quality pencil with a very sharp knife, and unless the pencil is so pointed it will be difficult to be quite sure where the stroke is being made, obviously a very important thing. Retouching medium or varnish can be obtained from any photographic dealer. A very small quantity is sufficient, as it lasts a long while; a twenty-five cent bottle will supply all the requirements of the amateur retoucher for years.

The retouching desk or easel can be made of a piece of board about two feet by eighteen inches. A square hole is cut in this eight and a half inches each way, and a little nearer one end of the board than the other. Inside the hole, just below the surface of the board, four thin strips of wood are tacked or glued, so that a piece of glass eight and a half inches square will rest in the opening and be level with the surface of the board. If the board is of rough wood and the amateur has no skill in planing it may be smoothly covered all over with brown paper or with some cheap black fabric such as sateen glued on. The piece of glass is covered with black paper except for an opening the size of our negative, 4 x 5, or whatever it may be up to and including 6½ x 8½. Thin strips of card are glued on, so as to form a frame in which the negative may rest. The board has next to be fixed so as to stand at an angle of about 30 degrees with the table. This can be arranged by nailing two wooden struts, one on each of its long edges, at the ends furthest from the opening, which ends are to be at the top. The length of the struts must be settled by the angle which is found most convenient and by the size of the board. My own is 18 x 22 inches, and the struts, which descend to the table perpendicularly from the top corners, are a shade over 16 inches in total length. A board the same width as the first is nailed along its top edge, so as to stand out at right angles for about a foot and cut off the light from the film side of the negative. The desk is then complete. Of course, a proper retouching desk may be bought, and is a great convenience and luxury, but it is not difficult to extemporize one on the lines that have been laid down. But one of some sort is an absolute necessity.

The negative which we have chosen as the subject of our first operations may be a sharply focused portrait one of a badly freckled sitter. It is not at all a bad plan to seek out some good-natured model of the kind and make a number of exposures for retouching practice. These must be fully exposed and lightly developed, as the difficulties of retouching a strong, vigorous negative are multiplied tenfold. Having got the negative, we decide that what pencil work is to be done at all will be on the face, and so, taking a drop of the retouching varnish on the tip of our forefinger, which must be quite clean and smooth, we apply the varnish to the face only, rubbing it over with a circular motion, and not stopping until the surface of the medium feels tacky. There is no need to apply the varnish to any part which it is not intended to retouch. The negative is then stood aside for a few minutes for the varnish to harden, while the retouching desk is set up. This must be on a table to face the window. A sheet of smooth white paper—blotting paper is generally used—is placed on the table in the angle formed by the desk, so as to reflect evenly diffused light through the hole. The blind may be drawn down nearly to the top of the easel if this is close to the window, and serves to keep off unnecessary light, or a focusing cloth may be thrown over the projecting board at the top, so as to hang down at the two sides, and descend as low as the middle of the retoucher's head. The negative is then put on its glass carrier, which, being square, allows us to have the negative any way up we prefer, and with pencil sharpened to a fine point—a piece of fine ground-glass is very useful for giving the final touches to the pencil, a broken focusing screen will do—we are ready to begin.

A plain print on P. O. P.—self-toning paper is very suitable—should always be made from the negative that is going to be retouched before any work is put upon that negative, as a print is a useful guide. We look at it and note the particular parts upon which we are going to work, and find it very useful in showing the meaning of each of the different lights and shades on the negative. We may cover the negative with a piece of black paper in which a hole is cut about the size of the piece we varnished, and this will prevent risk of fingering the film, and will help concentrate attention on the part on which we are at work. Taking a bad freckle as a good thing to start on, we proceed with three or four light touches to try and bring its density up to that of the surrounding parts.

It will be well if the freckle is a large one, as it is more easily managed. No attempt should be made to fill it up with a broad line, nor should our strokes in any way appear to follow the shape of the freckle. They may be a series of straight lines fairly close together, and if need be we may cross them with another series. Some workers fill in a space with a series of fine dots, others with strokes like comets or commas; but there is no virtue in any one particular form over another. Whatever the stroke may be, its form ought not to be visible in the print, nor in the negative when this is held a foot away from the eyes. Under this treatment, three or four strokes should suffice to make that freckle almost unnoticeable, and we may pass to another, and do that in the same way. We must guard against putting too much lead on the negative, whether in one place or all over it. Just as little retouching should be done as is required in each case, doing too little rather than too much. It will be found best to try every form of stroke or dot that occurs to the worker, not all at once, but on different parts. He will soon find that he has a preference for one form of touch to another, that this form gives him the most control, and this will more or less unconsciously become his method. This is much better than trying to use one particular form of stroke from the start because someone else has used it successfully. The real "art and mystery" in retouching lies not in the particular form of the stroke, but in being able to use it to secure the result that is wanted.

In what I have written so far, I have said nothing about any form of retouching, except the removal of spots and freckles. The omission is intentional. Anything approaching the lightening of an extensive shadow, or the accentuation of high lights in the eyes, should not be attempted until the rudiments of retouching have been mastered—and not then. It is quite as important to know what not to do as what to do and while the latter is the weak spot with the amateur, the former is essentially the professional's sin, and for the professional I am not writing. If it seems to the would-be retoucher that a certain shadow is too dark, let him ask himself if it could not be lightened by a little alteration of the blind, or by the use of a reflector. The retouching done by Nature herself is far more subtle and delicate than the work of the most capable professional retouchers, and ought to be used to the full before the pencil is called upon to make good any deficiencies.

There is another point on which I have said nothing, which needs now to be referred to. I mean making different parts print darker rather than lighter. Of course, all application of the pencil to a negative can only result in the part on which the lead is put printing lighter than it did before retouching was done. Were we to retouch all the negative except a part which we wished to darken, this would be the equivalent of making that print darker, and this is practically what the exhibiting amateur does who papers the back of his negative and then cuts away the paper over the parts that are to print darker. But this is not practical with the pencil, and some other method has to be adopted. Most of these are not at all suitable for those who are first trying their hands at retouching.

Skillful retouchers can take a knife with a fine razor-like edge and pare down the film where it is too dense until it is just the right strength; but such an operation calls for a great deal of skill and much practice, which can only be acquired by the ruin of the negatives practised on, for film once cut away cannot be restored, though it is possible to mask the damage by applying a little medium and touching it with the pencil. Needles mounted in handles have been used for a similar purpose, and jewellers' files and emery rods have had their exponents. But they are all crude and easily misused, and when a high light has to be lowered it is better to steer clear of them.

In my own case, I used Baskett's Globe Polish reducer for this purpose, and employ it before the retouching medium is applied to the negative. A little lump of cotton-wool makes an excellent tool when the parts which are to be reduced are fairly large. But when they are small, something much finer is required. The tools which I then employ are made from the handles which are supplied by artists' colormen for sticking into camel-hair brushes. Three or four of different sizes may be selected, and one end of each rubbed with fine glass paper into a rounded shape. A little piece of fine kid—a lady's old glove will supply dozens, hundreds if it is one of those that go up to the elbow—is then neatly stretched over the rounded end, and bound round about an eighth of an inch higher up the stem with a few turns of silk. With one of the smallest of these it would be possible to reduce locally a spot certainly much smaller than one of the o's on this page, and three or four such instruments will do almost all the work of that kind which the photographer can require.

When retouching has to be carried out in the evening, a lamp may be used instead of daylight and the reflector. If the lamp has a ground-glass or opal globe, it may be arranged so that the retoucher looks straight through his negative at it. If not, a sheet of thin tissue paper may be hung from the upper angle of the retouching desk, and the lamp placed where it will illuminate that evenly. Or, if the lamp is strong enough, the white paper may be used as in daylight. If the lamp has a ground-glass globe, but is too high from the table to be used direct, we may place a mirror under the easel instead of the paper. In these matters the photographer must be guided by circumstances, and use the most convenient arrangement he can which will give him light enough. Needless to say, the light should not be so strong as to dazzle his eyes.

As soon as possible after the work is done, a print should be made to see its effect. If the retoucher is using daylight, he will do well to take a print after a quarter of an hour's work has been done, to see the progress made. He can then carry it further without loss of time, as the print so made need not be toned and fixed. If the work put on is not satisfactory, it may be removed locally by touching it with the point of a piece of rubber, or all over by cleaning with bread. This latter course I prefer rather than to use turpentine or methylated spirit to remove the pencil marks, as it leaves the negative ready for fresh work at once. The plate, after rubbing with bread crumb, must be very carefully dusted. If this method is not satisfactory for any reason, a rub with a tuft of cotton-wool moistened with turpentine will remove medium and all, and as soon as all trace of the turpentine has evaporated a fresh supply of medium may be put on and the work recommenced.

In my paper as first written, I made no mention of spotting, as this is quite a distinct treatment, and is much more commonly practised by amateurs. However, for the sake of completeness, I may add a word or two on that subject also. Spotting, as generally performed, is simply a filling up of transparent pin-holes in the negative with pigment, so that on the print they are white instead of black. No attempt usually is made to match the density in which the holes happen to lie; if the white spots on the print are obtrusive, they are then toned down to match their surroundings. A retouching easel is very convenient for spotting also.

For applying the pigment I use water color·moist ivory black, in pans, and a fine camel-hair brush. The brush is moistened in clean water, rubbed on the paint, and then twirled on a piece of paper until it is almost dry. Then, with the extreme point, the pinhole is touched once, and ought almost to disappear. Unless the brush is nearly dry the pigment will have a tendency to run, and may even make a black ring with a light spot in the middle, which is ten times worse than the original blemish. With a fine brush and very little in it, spotting is the simplest of manipulatory processes. It ought seldom to be required, but things are not always what they ought to be.

General Hints on Retouching.—Use a sharp, long-pointed pencil, and keep it up to the mark by twirling it on ground-glass or emery paper, finishing up with a wipe in the same manner on a piece of plain paper.

See that a good and not too strong light is coming through the negative; on no account should sunlight fall on the reflecting surface; sit quite comfortably and easily at the retouching board.

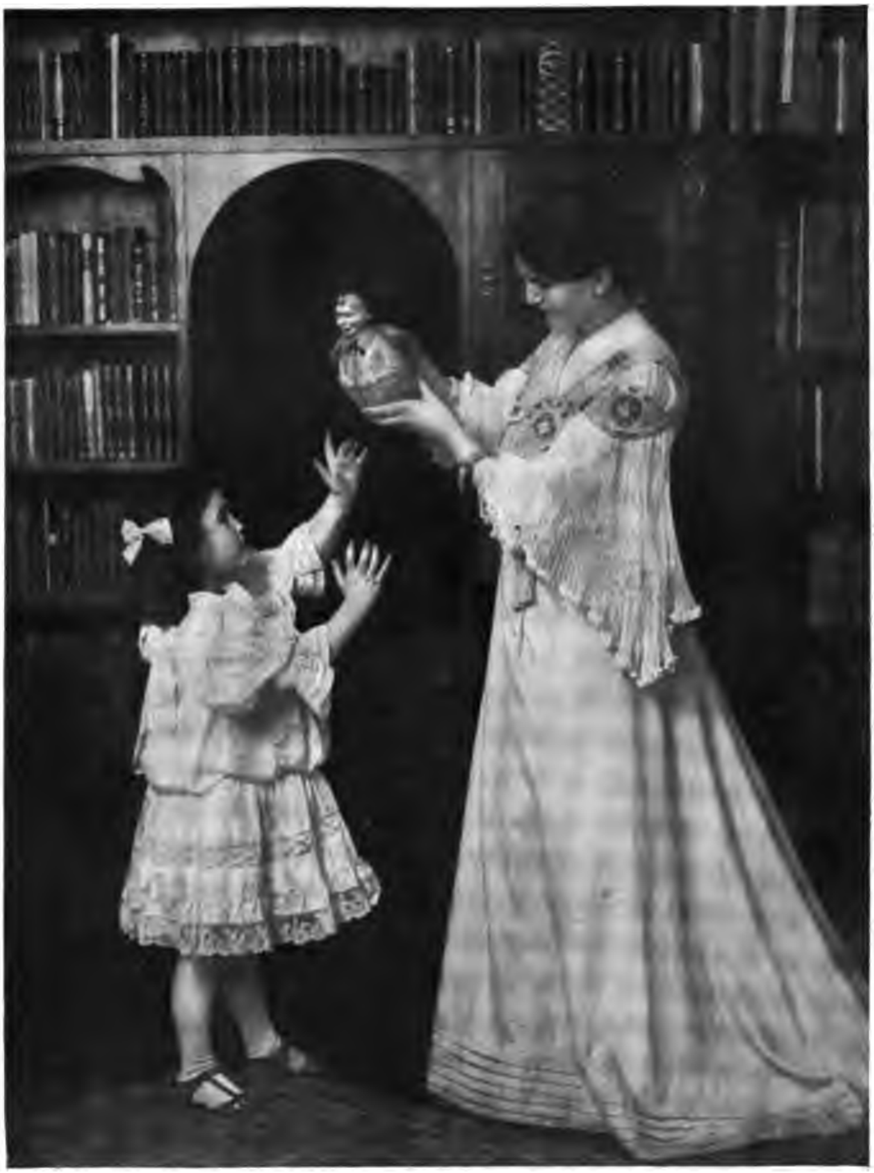
Do not attempt to peer into the negative while working on it; sit rather well away if possible, but look at the work from time to time with a pocket magnifier to see how it appears to be progressing.

Do not abuse the process. Use it if you will to cover shortcomings of the photography or of the photographer, but not to modify the sitter.

Above all, be sparing of the lead. Some beginners have complained in my hearing that they could not get the pencil to "take." This was more likely to be due to their trying to crowd on too much work than to defect either of pencil or of medium.

Finally, do not expect to succeed perfectly at the first trial. Elementary work such as I have described is not difficult, but even simple things have to be learned.—*Photography.*

Washing in slightly alkaline water will reduce the intensity of an over-printed blue-print.



THE NEW TOY **R. DUEHRKOOP**

THE USES OF A THICKENED DEVELOPER.

By T. P. Parker.

The use of a developer thickened with glycerine is a well-known method of control in the development of platinum papers, and it has occurred to the writer that a description of a thickened developer suitable for all plates and development papers would be of use to the practical worker. It will be found possible by its use to have complete control over the degree of contrast in a negative, thus enabling negatives of unequally lighted subjects to be printed from, without resorting to the covering up of part during the printing; this is especially valuable in the case of a view containing clouds; it does away with the danger of getting over-much contrast in the negative, and thus with prints of the "soot and white-wash" order, and, lastly, it compensates for a large amount of over-exposure, thus allowing an exposure sufficiently long to register all shadow detail, and to keep any atmospheric effect which may be present at the time of exposure. As a test, I have made and printed two photographs of the same scene under the same conditions, namely, with a good diffused light, in which the difference in contrast is very evident; yet both the negatives received the normal exposure, as calculated by a meter, and developer of the same concentration was used for each; also the prints are made on the same paper, and had similar treatment in each case. The whole difference in contrast is, therefore, due to the fact that while No. 1 was developed in a solution of normal density, for No. 2 a solution containing fifty per cent. of thickener was used. Besides the difference in contrast, I noticed that, while No. 1 shows some signs of halation, No. 2 is entirely free from that defect, and that No. 2 has preserved the slight atmospheric effect which was present at the time of exposure. Both the negatives were developed with a solution containing in each fluid ounce:

Metol	¾	grain
Hydrochinon	3	grains
Sodium carbonate (cryst.)	27	grains
Sodium sulphite (cryst.)	22	grains

For No. 1 the solvent used was water, and for No. 2, water containing fifty per cent., by measure, of treacle.

Other developers, such as rodinal and amidol, have given equally good results, when made up with the thickened solution instead of water. The thickener used has in every case been treacle, of the variety known as golden syrup, and this was chosen because—

(1) It is of constant density.
(2) It is without action on the developers used.
(3) It is easily mixable with water.
(4) It is at hand in every house.

The remarks so far have applied particularly to negatives, but the method is equally applicable to the production of transparencies and lantern slides, and to bromide and gaslight papers. Though the amount of treacle used in the developer for No. 2 was fifty per cent., it will be frequently

THE TÊTE NOIR PASS **CLARE J. CRARY**

Prize, Mountains

found advantageous to increase the exposure to three or four times normal, and in that case twenty-five per cent. is enough. The only disadvantages that the writer has found have been, that the time of development is increased, usually by about fifty per cent., and that the dish must be kept rocking; but against these may be put the advantages that the negatives obtained are fine-grained, and admirably adapted for enlargement, and that the image being on the surface of the plate development is easily followed by the light reflected from it. Many other uses of this process will, no doubt, occur to the reader, and it seems as though some exact experiment on the subject might be of considerable interest and use.—*The Amateur Photographer.*

SIMPLE SENSITIZERS FOR POST CARDS.

A.	Green ammonio-citrate of iron....	50 grs.....	100 g.
	Distilled water..................	1 oz......	1000 ccm.
B.	Silver nitrate....................	87 grs.....	174 g.
	Distilled water..................	1 oz......	1000 ccm.

Add ammonia .880 drop by drop to this with constant shaking, till the precipitate first formed is redissolved. Just before use, mix the two solutions in equal quantities and paint over the cards. These merely require fixing in plain hypo to give a pleasant brown image. Another method is to paint over the cards with

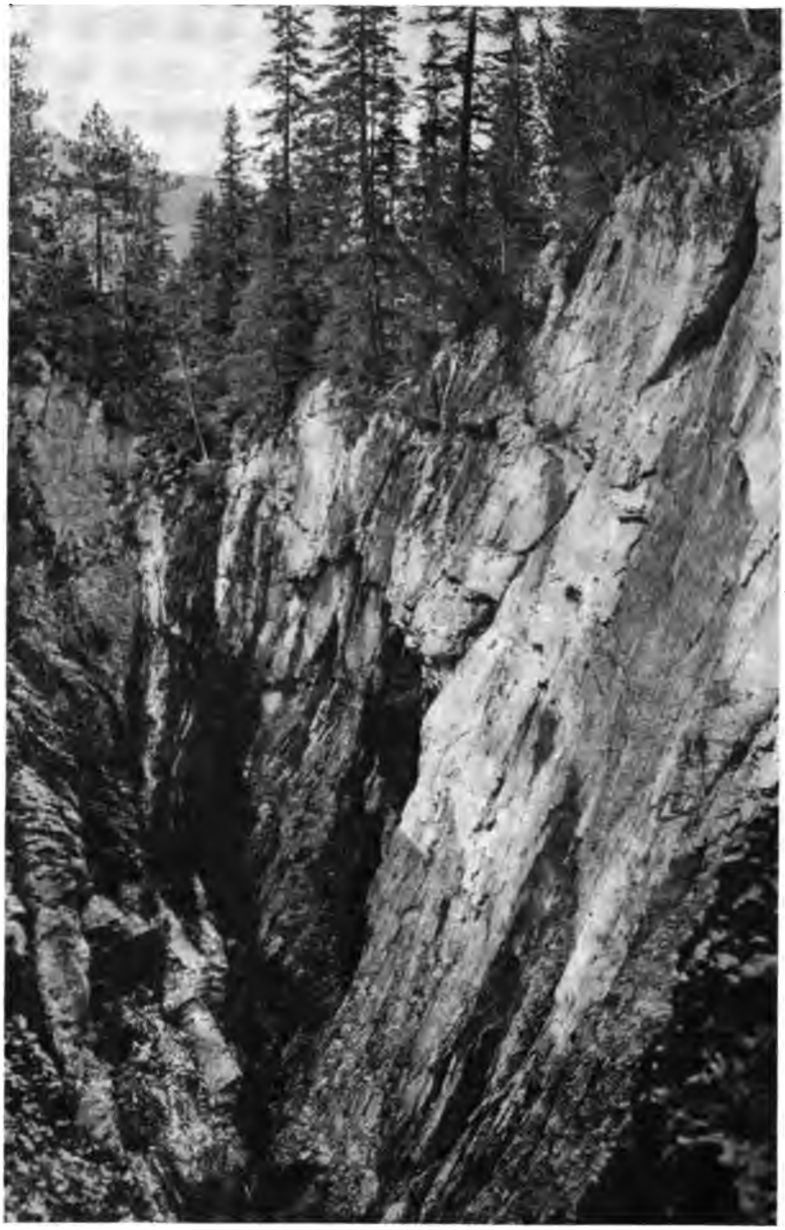
Sodium chloride	10 grs.	20 g.
Sodium citrate	10 "	20 "
Distilled water to..................	1 oz.	1,000 ccm.

Allow to dry and then paint with

Silver nitrate	50 grs.	100 g.
Citric acid	100 "	200 "
Distilled water to..................	1 oz.	1,000 ccm.

Allow to dry and print rather deeply; then tone in any bath diluted with an equal quantity of water. It is advisable to size the cards well first with arrowroot.

It would be safe to say that out of every dozen people who set out for a Summer holiday nowadays there are twenty-seven who carry a camera. And of those twenty-seven probably fifty never have a decent print to show. There are only two people whom I really enjoy seeing carrying a camera on their holidays. One is the aggressively shabby chap with a ramshackle old camera that was most likely part of the loot of the Armada, and which has been added to and amended till there is not an atom of the original timber left. That's the chap that gets some pictures that do one's eyesight good to look at, and make one think that photography is not, after all, quite such a hollow fraud as it seems. The other person (bless her) is the Summer girl. She carries a dainty little baby camera, all silver and real leather, on one pretty little crooked finger, and she has even learned how to open it to show her friends while she asks them if it is not a perfect little love, and she does so wish she knew how to use it, but she has quite forgotten which is the focus. She never makes an exposure, but she makes a sweet picture with her camera.—*The Walrus.*



THE GORGE OF THE ROSENHAUI GLACIER W. M. SHIRLEY

Honorable Mention

A SIMPLE TEST FOR SULPHITE.

By R. B. Ludington.

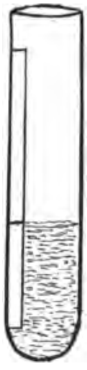
Knowing that the unstable nature of sodium sulphite is the cause of many trials and tribulations to photographers, I append a simple test for this much-used chemical. I have used the test on many samples of sulphite and have been surprised to find the wide divergence that existed between the claims of manufacturers and their products. I have also found that sulphite which passes this test gives the required result.

Materials necessary:

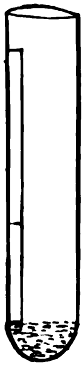
1. Saturated solution barium chloride.
2. Hydrochloric acid—C. P.
3. One 6-inch test tube.

To make a *qualitative* test, put in the test tube, say 5 grains of the sulphite, or, roughly, about as much as will stay on the knife end of the nail blade in a pocket knife. Fill test tube about one-third with pure water and dissolve. Then add the barium chloride until no precipitate is thrown down, and allow the precipitate to settle. When settled, pour off as much of the clear liquid as possible, and to what is left add some hydrochloric acid, slowly. If the sulphite is pure the precipitate will be dissolved at once; if not, the impurities will be left behind.

For a *rough* quantitative determination, paste a strip of white paper down the long axis of the test tube. When the precipitate that has been thrown down by the barium chloride has fully settled, make a pencil mark on the paper corresponding to the upper surface of the precipitate, and after dissolving in the acid and allowing residue to settle the relation of the residue to the total precipitation can be approximately determined.



Before adding acid.



After adding acid.

The object in allowing the precipitate to settle after the addition of the barium chloride is to permit a few drops more of the barium solution to be added to the clear liquid in order to make sure that *all* the salts are precipitated.

The decantation of the filtrate before adding the acid is to prevent dilution of the latter.

WHERE MOUNTAIN AND RIVER MEET **W. W. SIMPSON**
Honorable Mention

If one does not care to be too saving of the reagents an excess of the chloride may be added at once, to be followed immediately by the acid, and the test completed quantitatively in a couple of minutes. As the precipitation is voluminous, a very small quantity of the suspected sulphite is required for the test, if one does not wish to over-run the capacity of the test tube.

This reaction is not calculated to satisfy the demands of the analytical chemist, who can only be content with a determination worked out by balances, pipettes, indicators, etc., but to the photographer who is anxious to know quickly if the impurities of his sulphite come within the "error of dosage" it will be found to be the greatest help if not a blessing.

WHAT TO DO WITH CONTRADICTIONS.

By Olivia T. Closson.

When I began my photographic career I was most humble, as befits an ignoramus who knows not, and knows that he knows not; and a large part of my ignorance consisted in believing that those who wrote books—or, to be exact, for the two really aren't the same—those who had books published, knew, and knew that they knew, and consequently whatever they said was to be accepted as truth. As one cannot have too much of a good thing, I logically argued that the more books I bought the more true information would I possess, and the sooner would I become a Stieglitz or a Steichen. So I bought books, bought recklessly, with all an enthusiast's disregard of such secondary considerations as new bonnets and gowns. But, alas for

IN THE CANADIAN ROCKIES W. F. LENNOX
Honorable Mention

my childlike faith! I was not long in finding out that the more I read the less did I learn. No sooner would I commit a statement to memory, and carefully secure it in my ever-ready notebook, than I would find that same statement flatly contradicted by another authority. My bewilderment increased in direct proportion to the number of books on my shelves, until in despair I vowed that the only true statement ever published was that wrung from the exasperated prophet who cried in his wrath, "All men are liars!"

Now the ignoramus class is a large one, many of whom must depend on books alone for their knowledge, and doubtless there are many who have become as hopelessly bewildered as I was in those dark days of perplexity. But rarely is a situation, in itself, hopeless; it is our point of view that makes it seem so. So perhaps the light that finally came to me may also illuminate the path of some fellow ignoramus, to whom I would say, there is but one way to read, and at the same time preserve one's sanity—it is to apply to every statement this test, "That may be best for the writer thereof, but will it be best for me?" Ponder each statement, proving by careful trial, if necessary, to find if your best results can be gotten that way; if they can't, then dismiss that statement as if it had never

MOUNT ABRAMS, OURAY, COLORADO **W. A. ROWLEY**
Honorable Mention

been. It is not for you, though someone else may follow it and succeed. The main thing is to do your best. If you can do that by disregarding certain authoritative statements, sail boldly in and disregard them, supporting your beginner's wavering courage by the thought that results, not methods, are what count. Then, and then only, will your progress be serene, and you may even become so tolerant that, like the above-mentioned prophet, you are willing to admit, "I said in my haste, 'all men are liars.' " But in revenge for those struggles through that Slough of Despond to the firm ground of believing only what I myself have proved, I suggest to my tormentors to be less dogmatic in their assertions. There are generally two—frequently more—ways of attaining the same result, so why say to a trusting ignoramus:

"I have the truth as oracles tell,
Go with me or—you'll go to ——."

I'm not naming any names, but if anyone wants, on the strict Q T, some samples from my choice collection of contradictions, with the authorities therefor, I can oblige him.

By which you will perceive that though I may still be an ignoramus, I am no longer humble.

EDITORIAL NOTE AND COMMENT.

The subject of our December competition is Genre; that is, pictures which tell a story. As this competition was very popular last year, we expect numerous entries. All pictures must be mailed to reach us by January 1, 1908. Prints must be sent to Frank R. Fraprie, 6 Beacon street, Boston, Mass., and *not to the New York office.* Several prints are not considered each month for violation of this rule, which is inflexible. Prints sent to New York are never seen by the judges.

These competitions are open to any photographer, whether a subscriber to AMERICAN PHOTOGRAPHY or not.

The first and second prize winners will be awarded bronze medals. The first prize winner, in addition to the sum of five dollars, will receive a bronze medal with blue ribbon and silver bar. The second prize winner is awarded a bronze medal with red ribbon and bronze bar. Those submitting good work, but not sufficiently high to warrant a prize, are accorded honorable mention. Pictures awarded prizes or honorable mention may be reproduced, and unsuccessful pictures will be returned if requested.

Future subjects are: For December, Genre. For January, Portraits. For February, Snow Scenes.

The Calendar competition was not successful. Two entries only were made, and no prize was awarded. In the Mountain competition, also, the number of entries was far below the usual number, so that only one prize, a bronze medal with bronze bar, was awarded. The prize-winning picture, and those which were awarded Honorable Mention, are reproduced.

* * *

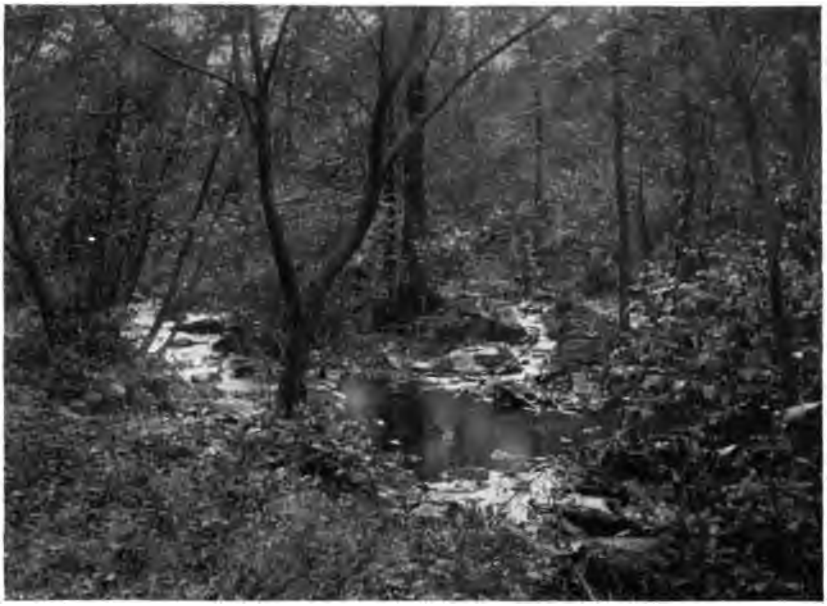
The number of pictures sent in for criticism each month is greater than that sent in for prizes. We invite our readers to express their wishes in the matter of continuing prize contests. Unless a more general interest is shown, we may decide to discontinue them at the end of the present series.

* * *

In our last issue we made some comments on various photographic contemporaries, which, penned in a spirit of amusement, and hastily, went to a length which, upon calm reflection, seems unwarranted. In this opinion we are supported by Mr. French, editor of the *Photo Era,* who feels that we transgressed the bounds of editorial courtesy. We tender him our apologies for the insinuation that the *Photo Era* is not an artistic magazine. In our opinion it compares favorably in this respect with any periodical of its class at present published in this country. The editor is a man of taste, feeling, and wealth, a combination which can but be reflected in his periodical.

OUR PORTFOLIO

Prints for criticism under this heading should be sent to Dr. John Nicol, Tioga Centre, N. Y. Only one by each reader will be criticised each month, and if more are sent the surplus will go to the waste basket. Mr. Fraprie will also criticise prints if sent to him at 6 Beacon Street, Boston, Mass.



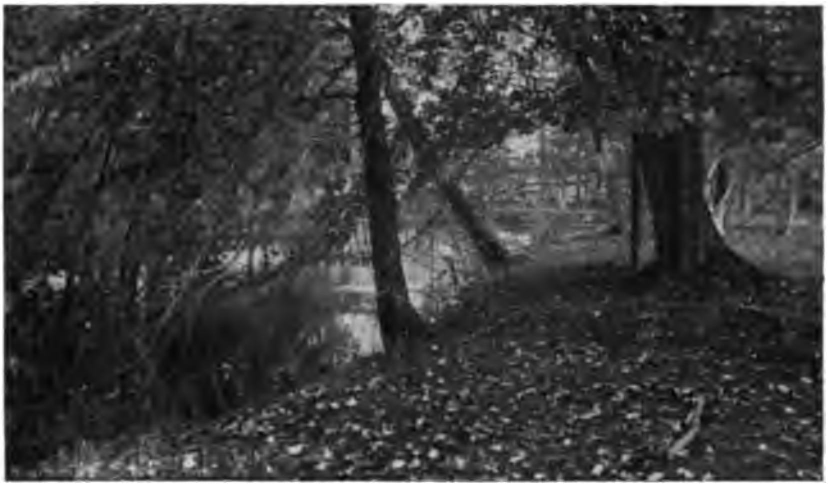
THE BROOK P. W. CHRISTENSON

P. W. CHRISTENSON.—"The Brook." This is another of those exceptional pictures that make our Portfolio work encouraging. Not only a well-chosen subject, but one that has been properly exposed, and in which, consequently, lights and shades are just as they ought to be. The brook is a winding stream, making its way through what is evidently a young growth of trees, and although it cannot be said to be either picturesque or pictorial, its technique is admirable.

Such good photography deserves a better subject, one in which there is some objective point to which all else should be subordinate and to which all should lead; which means that you should give more attention to art, should study, say, "Burnet's Essays," especially the one intended to help the student "to see"; when you will do work of which you may well be proud.—N.

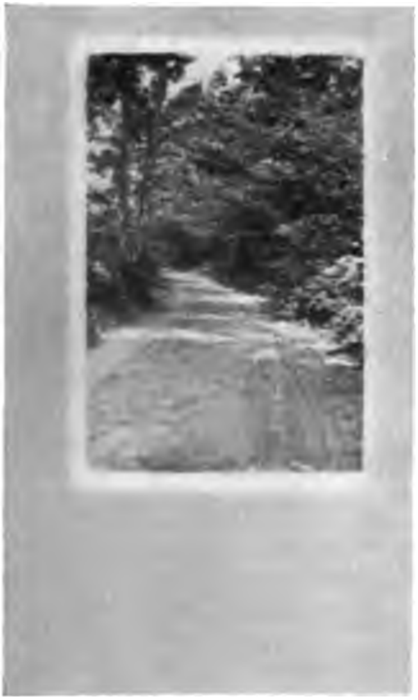
E. S. THOMAS.—"Down by the Running Water." The print hardly conveys the idea of the title, as the water is only known by its surroundings, nor is there the slightest idea of motion or running. Both sky and water, except where the latter is in shadow, are represented by white paper owing to a much too prolonged development or developing in a solution too strong in reducer. The selection is good, as is the view point; indeed, with proper exposure and development you might have had a fine picture. —N.

G. H. TRAUTMANN.—"The Swimming Pool," although a very good photograph, is not nearly so pictorial as it might have



THE SWIMMING POOL G. H. TRAUTMANN

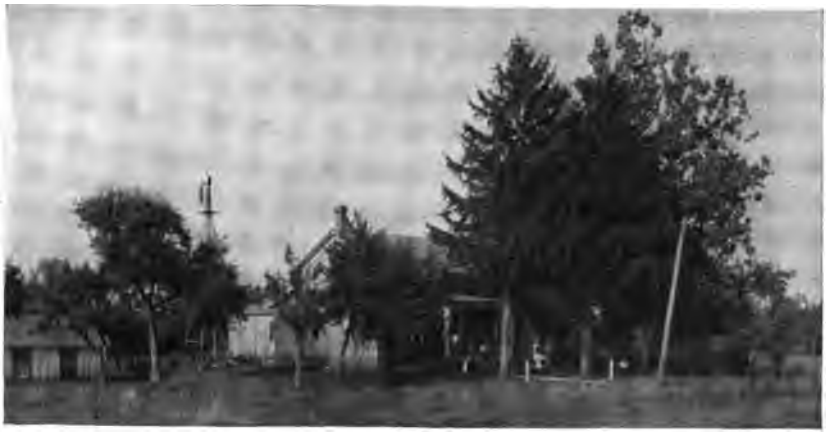
been, there being, in fact, two points of interest, a thing fatal to good work. We should have included only about two-thirds of the subject on the left, and made it an upright, the vertical tree in the centre already dividing the subject. The photography is good, but would have been better for a longer exposure.—N.



SUNSET DRIVE R. D. THOMSON

Roger D. Thomson.—"Sunset Drive" is a well-selected subject, but with more than the necessary amount of bare foreground, making the horizon line in its worst place, the middle of the composition; five-eighths of an inch trimmed from it would be a decided improvement. Then, it suffers from the almost universal fault, under-exposure and consequent over-development, making everything that should have been in the lower lights in the very highest, in fact, perfectly white paper. A shade darker would have improved this, but nothing but longer exposure and shorter development would have made it right. There is ample evidence here that you know what will make a good picture when you see it, but your photographic technique needs improvement. You must learn that even blinks of sunshine across the path nor the sky are never properly represented by white paper, as they are here.—N.

C. H. Brooks.—"A View in the Mountains" Of this we may say the same as of the last; it is a fine subject especially in the way that the trees in the



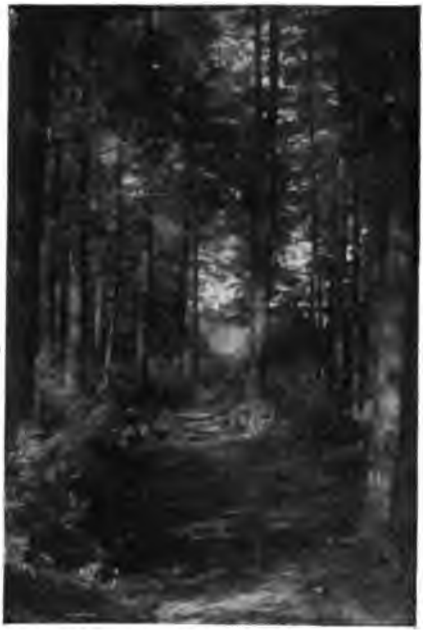
THE OLD HOMESTEAD E. J. HOUSER

foreground set back both the distant hills and the water; but the short exposure has induced the pushing of development till sky and water are only a little less than white. It must be evident to you that in such a light as you had on the water and sky the trees in the foreground could not have seemed nearly so black. —N.

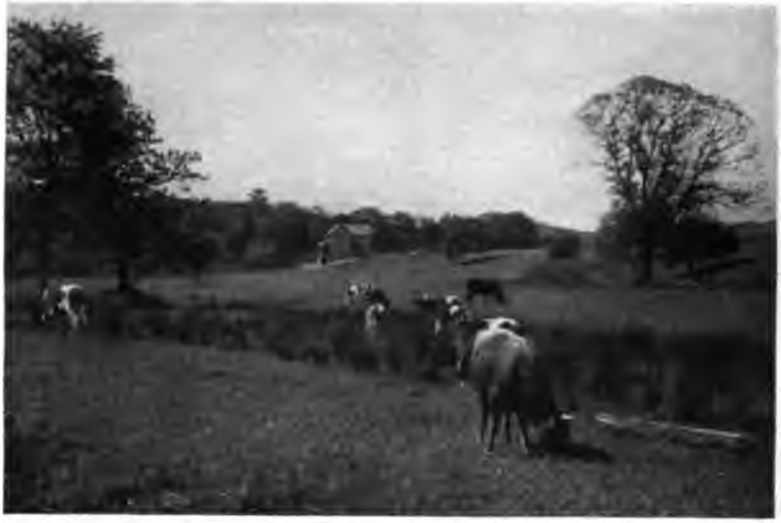
E. J. HOUSER.—"The Old Homestead" is more like a new one, but a good photograph for all that. It looks like a modern farm house, including the windmill and even the telephone pole. It is not, however, a picture in the art sense of the word, but a good example of the record variety, and as such quite as valuable and interesting as the pictorial. —N.

HORACE E. STOUT.—"In the Pines" is very much the same as that noticed in our last issue, of a greenish color which does not appeal to us, for this kind of subject at least, and merely a collection of trees without objective point or anything of more importance than another. It is, however, a fine photograph and well worth a greater or better knowledge of art—the ability to make pictures instead of merely records of fact—that is, to reproduce nature not exactly as it is, but as you see it, and to put something of your own individuality into your work. —N.

H. A. TREMAIN.—This, while much better than that noticed as 66 in our October issue, is not altogether satisfactory. Representing a girl with a cat in her lap, it is really a portrait of the latter, the face of the former being so black as to render the features practically invisible. Subject and arrangement are good, and had the face, the important part of a por-



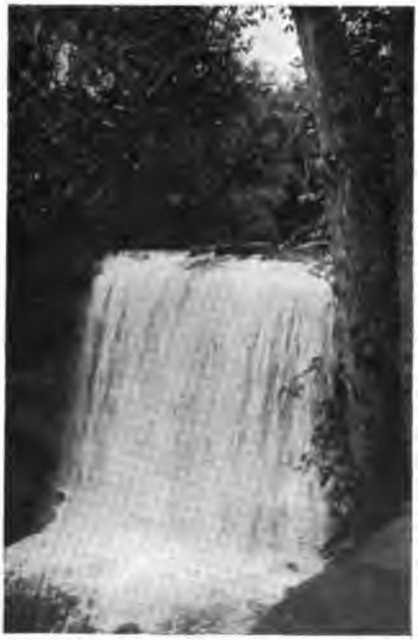
IN THE PINES H. E. STOUT



WM J. SMITH

trait, been properly lighted, we should have had nothing but praise for the picture.

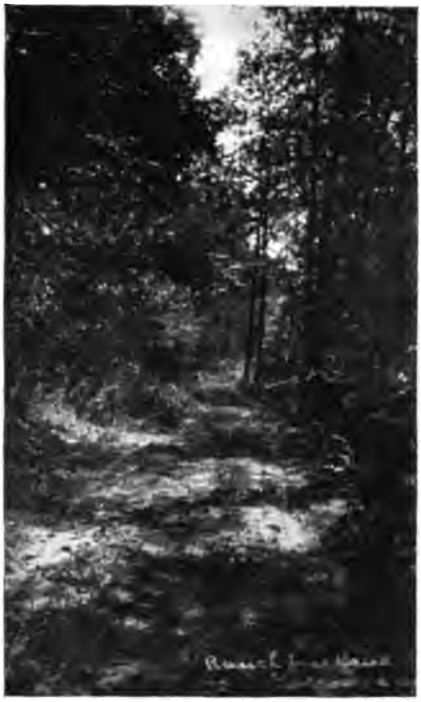
H. C. **Brown.**—"Minnegahi (?) Fall" is considerably better than that noticed as 63 in our October issue, although the fall would still be better for some local reduction, and the all too white sky for toning down. It is practically impossible to secure by one exposure both the fall and its surroundings; and even the most rabid stickler for pure photography cannot object to either of those necessary operations; although, of course, he could reach the same end by two exposures and combining the negatives.—N.



H. C. BROWN

W. J. **Smith.**—Your unnamed print is a fine photograph of the record variety, and the tone you have got with "hypo-alum" leaves nothing to be desired except perhaps the question of permanency. But why be satisfied with a "bald-headed" sky? Skies of white paper are no longer tolerable, as when you see that you must know that nothing else in the photograph is quite right. Tone down the sky and and you will at once see a wonderful difference.—N.

J. M. **Kane.**—"The Brook" is technically an excellent photograph of a subject which, from this point of view at least, is not worth photographing. There is no one point of more interest than another, nothing but a mass of vertical lines without support or contrast. Such good photography deserves better see-



FRANCES BAKER

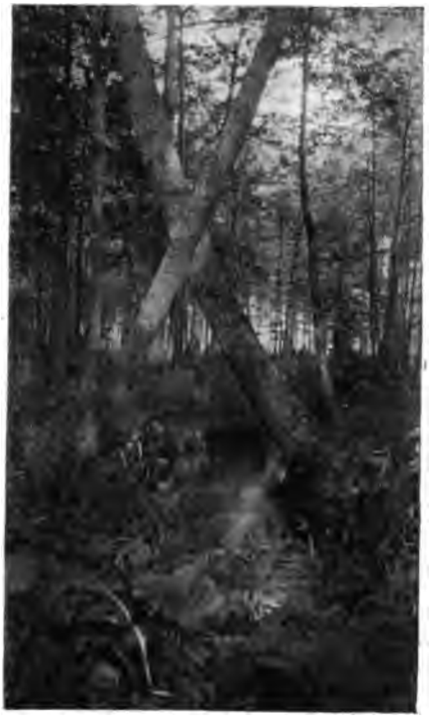
ing, that is, the ability to select pictorial subjects, and for that purpose you should study some work on art, such as Burnet's Essays, and then you will be able to send us something worth criticising. —N.

Frances Baker.—The scene in Golconda is in every way a well chosen subject with only one fault, slight under-exposure with its consequent over-development. In spite of the latter having been pushed too far, so far indeed as to make sky and other high lights perfectly white, the tree trunks and parts not in the highest light are simply black, or rather green without a trace of detail. Longer exposure and shorter development would have given you a fine picture—N.

C. D. Mott.—"Half-Way Brook" is not satisfactory for various reasons. The brook and its surroundings are good but the attention is taken from them by the all too prominent cross trees, which are sufficiently mechanical to destroy the otherwise good effect. Then, development has been pushed till sky and other lights that should not have been more than half lights are simply white paper. A longer exposure and shorter development would have given you much better technique, but the glaring mechanical cross so rivets the attention as to prevent anything like a pictorial effect.—N.

J. A. Bourquin.—"The Water Tanks" we do not like, simply because of the entire lack of contrast; there is neither light nor shade in any part of the print, but all alike is dark from a much too short exposure; or it may be from one that has been too long and very much under-developed. In any case, it is far from satisfactory and especially after such an example of fine photography as that noticed in our October issue.—N.

W. C. Verburgt.—There is really nothing worth criticising in this print, seven tree trunks represented by paper as black as it can be made, with plenty of light



HALF WAY BROOK C. D. MOTT

in the distance, showing that there was no possible reason why they should not have been something other than mere black lines. You cannot make photographs without sufficient exposure, and how you could have thought this worth sending is one of the puzzles that we often have to contend with.—N.

A. M. S.—The "Home Portrait" is like nine-tenths of all that come to the Portfolio, too dark in the shadows or rather without shadows altogether, nothing but blackened paper where they ought to be. This, however, is not quite so bad; there are shadows on the face, but they are far too dark, as you may see by comparing the print with the face of a friend in the house where it was taken. There should be no difficulty in getting just the depth of shadow you desire by moving the sitter from place to place, or by using hand or other screens. We think, however, you would do better by seating your model in almost any other way than here, square on, staring into the camera. And above all things, try to get some kind of expression into the face of the model, anything rather than the wooden appearance so often seen when both face and body are taken square on.—N.

Carl Krebs.—"Where the Fairies Live." We have been finding fault with most of the prints that have come during the month, mainly because they were too dark, and although this is darker than most, we feel the darkness to be a virtue rather than a fault. It is the title that makes the difference, showing the occasional value or influence of a title. Here we have just such a scene as the fairies have been understood to frequent. In the middle distance, or more nearly the distance, a collection of trees, and the front one much larger, the king of them all watching over the scene, with plenty of room for the fairies to dance. The darkness is not like that of which we generally complain, as there is no lack of detail wherever it is needed, the darkness only intensifying the thoughts connected with the subject. Nor is that all. In the guardian tree in front is a large hole black as midnight, suggesting, to us at least, something connected with the popular vanishing of the "little people" at cockcrow, or whatever time common report has it that they must disappear. Taking it all in all, "Where the Fairies Live" pleases us very much, and we like it better and better every time we go to it. But we should like to caution you that although under-exposure and under-development suit this subject admirably, there are indeed very few to which they would not be fatal. Therefore, we earnestly hope that you are not to join the almost universal band who seem to forget that a good photograph, except under certain conditions and for certain purposes, cannot be made without sufficient exposure; and that a too short exposure almost always leads to over development, which destroys the beauty of all the delicate lights, which, equally with the delicate shadows, are essential to good photography.—N.

B. H. Applegate.—"The Four-Mile Bridge" is a good photograph of a subject hardly worth photographing unless for local interest. The bridge is, of course, the only point of interest, and bridges, taken "straight on," are rarely pictorial, although this is much better in that respect than most. There is about it an air of rusticity, and its not being quite horizontal, rising as it does towards the right, takes it, as it were, out of the ordinary track. In one respect it is refreshing, a sufficiently exposed photograph coming among the dozens of snaps, not one-tenth of which are worth the paper on which they are printed.—N.

Alonzo Wookey.—"Wilds of the North" is apparently a stream of leaping water, but in the midst of such a conglomeration of material that one can make little out of it. There is nothing of the pictorial, nothing that should have induced you to select it for an exposure. Almost anything in the composition, alone and properly arranged, might have made a picture, but such a mixture or rather a confusion can have little interest for any one. Nor is the photography as good as it should have been. True, it is difficult to get falling water and its surroundings both right with one exposure, but with a lens working at a larger aperture, which is equal to a longer exposure, and a shorter development, neither sky or water would have been so white.—N.

Dr. E. D. **Starbird.**—The unnamed print, an opening in a mass of confused foliage through which passes what looks like a pebbly stream, and with still water in the foreground, does not, after much study, impress us favorably. We are quite alive to the fact that the stream may well be considered an objective point, and are rather pleased with the thought that the confused foliage may be considered as leading up to it. Still, even the objective point needs more guessing than we care to give a picture. As the same time, we highly approve of the effort because it is in the right direction, and so, promising. But a little study of it will show you that the tree on the left could not have been nearly so black with the sky so white. Sufficient exposure and only the necessary development would have made both sky and tree more like what they should have been. The color, a dark green, is, of course, a matter of taste, but we do not think it at all suitable for this subject; indeed, we cannot at this moment think of any subject for which such a color would be suitable. —N.

S. E. **Mullings.**—"Big Rock." For several years we have looked for the disappearance of the almost universal snapshot with its accompanying blackness or its perhaps more universal black and white, the result in nine cases out of ten of too short exposures, but instead of getting less, it is increasing till like a wave it seems to have blinded photographers, or rather snapshotters, till they seem to have accepted that black and white as the only thing photography can do. This is not nearly so bad as most of those that come to us. Still the tree on the right is as black as paper can be made, and the same can be said of what should be only a shadow on the left, while water is represented by the funeral color, although the stones lying in it are simply white paper. Photographs will never be got worth printing till photographers, those at least of the snapping variety, learn in some way to give sufficient exposure. This, we have said, is not nearly so bad as most that come to us, but there is really nothing but its technique to criticise. A large rock in the midst of a stream has nothing about it of the pictorial, nor is it so unusual as to make it worth photographing except for local interest. Such photographs are mere records, and as such should be as near as possible a reproduction of the material or the scene; and to make that so in this case the exposure should have been long enough and development short enough to give trees shadows, and stones, especially those in the water, something like their natural appearance.—N.

C. E. **McKee.**—In your effort to produce an imitation of moonlight your ambition has been greater than your success, as you will see if you cut the print exactly in two, when the right hand half will appear to you as it does to us, much more like moonlight than before cutting. Looking at the whole print, the sky is too uniformly lighted all over—not sufficiently localized. When cut, however, the light from the "moon" seems more localized, although not sufficiently so, although the silvery ray across the little sheet of water is fairly effective.—N.

Fred A. Jennings.—"Birches" is another of those simple compositions that always attract attention. Three small birches with, in the distance, an evergreen, and nothing more. The pine gives the necessary contrast and the two together suggest more than is seen, the one great object in picture making; while at the same time it is another proof of the advantage and beauty of simplicity.—N.

Irvin Markel.—In photographing Niagara Falls, and attempting to reproduce their grandeur in a space of two inches by three you have essayed a very difficult task, in which it is only fair to say you have succeeded as well as most. As a record of a great natural phenomenon your picture will serve, but it utterly fails to convey any sense of grandeur of the spectacle. The groups of people in the foreground are superfluous. The negative was a little underexposed, but is otherwise good.—F.

A. E. Caspfrsen.—The difficult problem you have set yourself to photograph, a figure in shadow beside a window, is not too well solved in "Before Meat." The composition is not pleasing, with no less than five strong horizontal lines in the left half of the picture and only verticals in the other half. The whole print is flat. and the girl is so badly lighted that her action is obscure. Finally, it is not timed carefully. The redeeming feature is the face, which is fairly well modeled, even in the shadows.—F.

H. E. Stout.—"On Top of Pocono Mountains" is what is rarely successful in impressing the beholder, a vast stretch of country photographed from a hilltop. This landscape not only presents no salient features to make it worth photographing, but is veiled in an obscuring haze. The arrangement consequently is a series of horizontal lines and the picture does not seem to be of any interest for any purpose. The exposure is right and the photography good, but why use a plate unless you can find a better subject?—F.

Holley Jacobs.—You call your picture "Mt. Tom," but it is really a photograph of a pleasingly diversified landscape with a very conspicuous wire fence in the foreground. The mountain is so far away as hardly to count, and is so overexposed and overdeveloped as to almost disappear into the blank and expressionless sky. The white title in the foreground is a serious blemish to the picture. Do not ruin your negatives by such barbarity. With the wealth of pictorial material your view shows in the diversified woods and copses of the valley which was before you when you took the picture, you should have been able to produce some real pictures, insteady of the useless panorama you have here. Do not think your pictures must include a whole countryside The simpler the better. A single tree overhanging a brook is far more likely to make a real picture than a thousand of them, with mountains, houses and fields thrown in for good measure.—F.

Laura Moller.—"Among the Hills" is a little gem. It is first class photography in every way and well worth doing. Artistically it is a little confused, and would be improved if you had used a little larger stop, so as not to have all planes equally sharp.—F.

C. E. McKee.—"The Irrigating Ditch" is a thoroughly satisfactory print from a correctly exposed negative. As a record of fact it could not be improved. The fence and bridge are distinctly unpictorial, and there are too many bare tree trunks reaching into an empty sky. By putting the horizon so low you have made your trees appear to be of enormous height, and they are no more pictorial than telegraph poles would be.—F.

Harry Milford.—Your post card of a locomotive on an enormous trestle has not even the merit of being a good record. Though the exposure was long enough to blur the smoke, it was far too short to give detail in the shadows. Five times as much exposure was needed.—F.

M. A. Calvo.—The light streaks in your print are caused by fog. The film was exposed to light, probably during development, or else the paper suffered the same misfortune. If the streaks are not dark in the negative the latter is the explanation. The Eastman Kodak Co. have a correspondence school which will probably meet your needs. Write to Rochester. There is no restriction as to the kind of apparatus used for our contest pictures. The contests are open to all. While the editors cannot give private criticisms of prints for lack of time, arrangements might be made to get some prints criticised for you at a moderate expense.—F.

H. A. Spengler.—"At Work" is fairly good for a home portrait, but the negative was carried too far in development, and gives too contrasty a print. The confusion of the line of the profile with the curve of the desk is very unfortunate.—F.

OUR TABLE

Material for examination and books for review may be sent to **Frank R. Fraprie**, 6 Beacon Street, Boston, Mass.

The Romance of Modern Photography: Its Discovery and Its Achievements, by Charles R. Gibson. With 63 illustrations. Philadelphia, J. B. Lippincott & Co., 1907. Price $1.50 net.

This is a most interesting book for all interested in the history and achievements of photography. The story is truly a romance, and will hold the attention of the reader from start to finish. It explains many of the things which are mysterious even to the average photographer, such as the making of book illustrations. It details at length many of the most wonderful applications of photography to scientific purposes, such as the photography of color, the photography of the invisible, photography at a distance, etc. The book is up-to-date enough to have a full account of Professor Korn's successful method of telegraphing photographs. Unfortunately, however, though color photography is treated at length, the Lumière process is not even mentioned, almost the only gap in an otherwise complete and valuable book.

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In Wildest Africa. By C. G. Schillings. Translated by Frederick Whyte. New York and London, Harper & Bros., 1907. Price $5.00 net.

Mr. Schillings' previous book, "With Flashlight and Rifle," made a sensation for his wonderful pictures of animal life in the jungle. This book will do no less. The author has spent years in the tropical jungle of German East Africa, working with the telephoto lens among the animals and birds of that inaccessible region. His photographs can be described by no other word than "wonderful." While on first inspection many of them may seem disappointing because of the high magnification and indistinct outlines, there is no doubt that they present a true picture of conditions on the veldt and in the forest. The author alludes again and again to the shimmering of light on the sun-baked soil which renders all distant objects indistinct and blurred, and this condition is faithfully reflected in many of the photographs. As impressions, however, as records of fast disappearing facts, as truthful portrayals of a life inaccessible to most of us, they possess a permanent and inestimable value. We cordially recommend the book to every lover of nature.

* * *

The Farmer's Boy. By Clifton Johnson. New York, Thomas Y. Crowell & Co., 1907. Price $1.50 net.

The author of this interesting book is a well known photographer. He has done much in the line of photographic book illustration. His photographs for this volume are almost all of a story-telling nature, and are extremely well done. They portray the life of the country boy in all its aspects, and will carry the average reader back to his boyhood days. The text of the book is an extremely sympathetic treatment of boy life and is intensely interesting. The genre photographer will find here much for study and emulation.

* * *

Afield with the Seasons. By James Buckham. New York, T. Y. Crowell & Co., 1907. Price $1.25 net.

Here is another nature book, a volume of pleasant essays which brings to the mind of the city dweller the beauties of nature throughout the year. Beautifully and enthusiastically written, and true to nature, the book is well worth reading and re-reading. The illustrations are excellent photographs, some of which show masterly overcoming of difficulties in nature photography.

* * *

The Land in the Mountains: being an Account of the Past and Present of Tyrol, its People and its Castles. By

W. A. Baillie-Grohman. Eighty-two illustrations and two maps. Philadelphia, J. B. Lippincott Co., 1907. Price $3.00 net.

One of the most romantic lands of Europe is the principality of Tyrol, whose history and characteristics form the subject of the present book. The author is owner of a castle which has a history dating back to Roman times. About the associations of this castle he weaves a most interesting account of the country and its dwellers. To this castle he traces back the invention of infantry, and hence the science of modern war. Numerous other historical events of great importance come into the book. The illustrations are practically all photographs of high merit, and the book is an excellent gift for any one interested in photography and travel.

* * *

FROM GRETNA GREEN TO LAND'S END. A Literary Journey in England, by Katherine Lee Bates. New York, T. Y. Crowell & Co., 1907. Price $2.00 net.

The author of this charming volume is Professor of English Literature in Wellesley College, and carried her literary enthusiasm with her wherever she went. The travels which she undertook up and down the west side of England, led her to most of the homes and haunts of the well known authors, and also to those of many unfamiliar to the average reader. While books of travel as a rule do not obtain high rank as literary productions, this is a brilliant exception, for its style is always pleasing and its matter interesting. The book is illustrated by twenty-four of the author's photographs, and these, while good records, are not on the same plane of excellence as the text of the book. They are good enough, however, to set it off gracefully, and make a most attractive volume for the library table.

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TURKEY AND THE TURKS, by W. S. Monroe. Boston, L. C. Page & Co., 1907. Price, $3.00.

From the fullnes of experience obtained by long residence in the Levant, the author of this book gives a comprehensive and accurate picture of life in the metropolis of the Near East. A most lucid and entertaining account of an interesting country.

* * *

From the Illinois College of Photography we learn that two valuable "Process" lenses have been stolen; a Bausch & Lomb Apochromatic, Series 8, No. 840851, and a Goerz Dagor, Series 7, No. 210406.

A reward of twenty-five dollars will be paid for information that will lead to their recovery, notice being given either to Ross McKinnon, chief of police, or to L. H. Bissell, president of the college, Effingham, Ill.

* * *

CAMERA WORK, No. 20, October.—This may be said to be a "photography in the colors of nature" number, although the illustrations have nothing to do with that exciting phase of the art. Mr. Stieglitz, who has just returned from a summer spent in Europe, brings with him a few of the wonderful results of work with the Autochrome plates, recently introduced by the Messrs. Lumière, seen in this country for the first time, and the influence of which on us was told of in our last issue. He devotes six pages to what he calls "The New Color Photography, A Bit of History," for which, interesting as it is, we cannot find room One thing, however, we may say, and it is this: that as proof that the results in the wonderful plates are not, as is asserted, merely mechanical and automatic, the work produced on them by Stieglitz, Eugene, and Steichen is infinitely superior to the best produced in the Lumière factory. In other words, we have perfect proof that the plates readily lend themselves to the production of pictures, each showing the individuality of the artist who used them as his medium. C. A. Brasseur has a couple of pages on "Notes Concerning Color Photography," and we are told that a special supplement to *Camera Work* is in preparation in Munich which will contain reproductions of Autochrome transparencies, consisting of portraits of Lady Hamilton, Mrs. Alfred Stieglitz, G. Bernard Shaw, and a portrait group taken on board of George Davidson's yacht. We need hardly say that we shall look forward with great interest to the appearance of such an interesting supplement.

Mr. J. T. Keiley gives an interesting history of Gertrude Käsebier, and under the caption of "Ad Infinitum," a criticism on criticising which makes some of us wince, but is perfectly honest and equally true for all that.

Not the least interesting part of the number is contained in two short paragraphs, each indicating a recognition of photography in its art aspect in high quarters, and each a feather in the cap of the Photo-Secession, whatever its detractors may say to the contrary. The paragraphs record the fact that Mr. Clarence H. White has been engaged to lecture on "Pictorial Photography" before Columbia University during the winter; and that Mr. Frank Eugene has been engaged for the same purpose by the "Versuchs-Anstalt für Photographie und Reproduktionstechnik," a state institution in Munich.

The illustrations include six by G. H. Seeley, three by Stieglitz and one by W. W. Renwick. The latter is a nude, and one of the very few such, owing their existence to photography, that we have not been ashamed of. This is in every sense a noble and ennobling picture, and should forever lift the embargo from photography of the nude, which, so far as we have seen hitherto, was in nine cases out of ten merely photography of the naked and badly selected at that.—N.

* * *

The Photo-Miniature, No. 83, for November, 1907, is devoted to the coloring of lantern slides, and tells of methods so well that if we had had anything like it some fifty years ago, when we made many attempts by many methods, we should not have had the opinion that we have held since then that "a slide colored was a slide spoiled."

W. Green deals with coloring with oil colors and does it so well that any one of average ability could, with a little practice, do work that, while not perhaps artistic, would at least be a great improvement on nine-tenths of all the colored slides on the market. Robert Melville treats of water coloring, or rather staining with aniline colors, at present the popular way, and while we admit that better work *can* be done in oil than in water, those who can do it are few and far between, while those who can do work that is in every way satisfactory with water are now becoming quite common. While saying that, however, we say with equal confidence that there are thousands of slide makers and slide lovers who do not care to give the time necessary to perfect themselves in coloring and who would pay a reasonable price to get the work done.

The moral of the story is this: There are thousands who would gladly add a little to their income if they could do it easily and at home, and in this book they have the key that would open the way to their doing so. Less than a couple of dollars would furnish them with the book and the appliances for the necessary practice, after a little of which any man, and especially any woman of average ability, could in a short time color slides to the satisfaction of at least ninety per cent. of all slide makers, and with anything like reasonable charges we could almost guarantee them all the work they could do. And remember, that the work may be done as well if not better by artificial light as by that of the day. Of course, a little outlay in advertising might be advisable, although, like portrait photography, every slide well colored would be a lasting advertisement.—N.

* * *

With the Camera, the monthly circular from the Illinois College of Photography and Photo-Engraving, tells as usual of the visits of former students, demonstrators from several manufacturers, the arrival of students from this and other countries, and altogether of progress and continued success. It tells also of the addition of a complete equipment for developing-paper work, there being nothing of the kind when the college was first established, and the serious loss sustained by the Students' Engraving Club in theft of two valuable process lenses noticed in another part of this column The College Camera Club held its regular Autumn Salon with a banquet to the visitors in the evening. The awards went to Mr. Blakeslee and Mr. Armstrong.—N.

* * *

Folmer & Schwing have a most interesting and instructive series of lantern slides, which they intend loaning to camera clubs, photographic societies, schools and other organizations interested in photography.

These slides will be ready some time in December, and clubs desiring the use of this collection are invited to correspond with the Folmer & Schwing Division, Eastman Kodak Company, Rochester, N. Y.

* * *

There are so many photographers using postal cards for portrait work, especially at this time of the year in anticipation of the holiday trade, that a card coated with Professional Cyko emulsion, to produce soft prints from contrasty negatives, has been persistently urged on the manufacturers of Cyko, who announce that they are in a position to supply Professional Cyko cards of semi-matte surface, in boxes of 500 and 1,000 cards only, at $8.50 per thousand, net. The cardboard will be the same as used for the regular Cyko card, i. e., pure linen stock of standard weight and of the highest grade of texture and chemical purity.

This card is not intended for those who consider price the only factor, but for those who wish to build up a reputation for quality and who have already learned from experience that in the postal card business the item of rejected prints enters more largely into the question of profit than the cost of the card.

Cyko cards are uniform. They allow great latitude in printing and can be forced in development without staining or fogging. They produce soft and brilliant prints.

[Supplementary to the article by Dr Nicol on another page, we give some further particulars of the Isostigmar lens, furnished by Morris Earle.—Eds.]

One might have supposed that the ground had been so thoroughly ploughed up in the optical field that no original idea could be brought to the surface as distinctly new as the formula that the Messrs R. & J. Beck, the old renowned manufacturers of high grade optical instruments have evolved in their new anastigmat lens known as the "Isostigmar."

Formerly, it was the case that all manufacturers of lenses, known under the type of anastigmats, conformed to a theory known as the "Petzval Condition," which on account of the deep concavity of the individual lenses required the making of these lenses one at a time and that these lenses should be cemented together; whereas the Isostigmars, having shallow concavities, are ground many at a time and are not cemented together. This, it is evident, results in reducing the cost of manufacture and places this new lens in the hands of many photographers who thus far have been unable to possess a high grade lens. Messrs. Beck have, under this new formula, manufactured a lens which has very unusual qualities, first that it is a high grade lens, and, second that it is manufactured at a very low price, less than half the price of the regular anastigmat lenses. The careful tests that have been made on this lens at the National Physical Laboratory of Teddington, London, show first, that notwithstanding the fact that there are ten glass-air surfaces, there is no flare spot; second, that there is no visible defect, such as striae, veins, etc., and that notwithstanding the fact that the lenses are not cemented together the relative centering of the surfaces is entirely satisfactory. Further examination shows that the definition at the center of the plate with largest stop was excellent and that this definition was satisfactory over the entire plate with the full opening marked f 5.8. "The plate having been focussed at the center of the field, with the largest stop, for an infinitely distant object, the movement necessary to bring it into focus, when the aperture is limited to a zone of the lens, lies between +0.00 cm. and —0.00 cm. The observations are usually made for zones of width one-sixth of the diameter of the largest stop. The plate having been focussed in the center of the field for white light, the movement necessary to bring it into focus for blue light (approximate wave length 440 micromillimeters) is 0.00 cm.; and for red light (approximate wave length 656 micromillimeters) is —0.02 cm." This shows how wonderfully well corrected the lens is for achromatism. On the question of astigmatism and curvature of the field the same certificate states, "The subjoined table gives the distances from the focal plane of the positions of the best focus (D_1 D_2) for radical and transverse lines, and of best general focus (D_3) respectively, at different angles of obliquity, measured from the lens axis. The focus is for an infinitely distant object, the stop marked f 5.8 being employed."

Distortion.—The displacement—positive, if towards the center of the plate, negative if away from it—of a point in the image from the correct position it should occupy is given, for different angles of obliquity, in the table.

Angle Degrees	Astigmatism		Curvature	Distortion
5	+.01	+.01	+.01	
10	+.03	+.03	+.03	.00
15	+.08	+.07	+.07	
20	+.11	+.12	+.11	—.10
25	+.14	+.16	+.15	—.40
28	+.11	+.12	+.11	—.60

It will be seen from very careful and technical examination that the lens has stood a test which shows it to be a wonderfully accurate instrument, and that there is no distortion in 30 degrees, that is 15 degrees on either side of the center of the plate and at a distance of 28 degrees from the center there is but .6 of a mm. distortion, which is practically nothing in the appearance on the plate.

The general description in the Messrs. Becks' recent patent gives a sufficiently correct idea of the various properties of the lens, namely, that "it is a compound photographic lens spherically, chromatically and astigmatically corrected, consisting of two positive and three negative lenses all separated by air spaces, two of which air spaces are of the shape of a positive lens, and two of which are of the shape of a negative lens, the two more powerful of the three negative lenses being meniscus-shaped, and being made of a glass with greater dispersive power than that used in the positive lenses, the two positive lenses being either meniscus, plain convex, or double convex, the curvature of the surfaces facing the negative lenses in the last case being very slight." The lens that was passed upon by the National Physical Laboratory at Teddington, was No. 17593. Its diameter was 2.2 cm., the size of the plate covered 10.8 cms. by 8.3 cms. (4¼ inches by 3¼ inches), the focal length 12.42 cms. (4.89 inches), distance of the focus from the point where the lens axis cuts the back surface 10.85 cms. (4.27 inches), the angular field, the diagonal of the plate, is 13.6 cms. (5.4 inches) requiring a field of semi-angle 28.70.

There are two series thus far put upon the market, but Messrs. Beck promise others very shortly and are preparing portrait combinations, wide angle lenses, in fact, a full series of new productions in the lens field for photographic use, following the general formula as set forth in their patent papers. The Series II. lens has an opening of f 5.8 and the particular lens, No. 3, focus 4½ inches, described by the National Physical Laboratory, is furnished in a brass tube with Iris Diaphragm for $25.00. These lenses are so carefully manufactured that they can be screwed immediately into many of the most popular cameras now on the market and they can be used at once without any special fitting. For this purpose this lens is furnished in cells in a velvet-lined morocco case for $21.00. Thus it will be seen that for this very moderate price the photographer can avail himself of all the advantages of a high grade lens. Another very advantageous quality about the lens is that the front and back combinations can be used separately for soft portraiture effects without stopping down, and for landscape and other pictures, where larger images are desired, a sharp focus can be obtained by diaphragming down the lens. It will be of further interest to know that this lens can be used with its full opening to cover a much larger plate than it is listed at; a 5 x 7 plate being fully covered by this 4½-inch lens. So that it is evident that the lens can be raised or lowered on the rising and falling front of the camera without losing any marginal sharpness in the picture. It is possible, therefore, to use this lens not only for the plate it is intended, but for a larger plate where necessary to obtain results in photographing groups where the photographer is in a confined space and cannot set the camera well back, or in the street where the photographer is taking a photograph of a building and is confined to close quarters. The other size lenses are also just as capable; the 4 x 5 lens will cover a 6½ x 8½ plate in the same manner, and the 5 x 7 lens will cover an 8 x 10 plate.

Quoting from a recent description of this lens in the English paper, *The Amateur Photográpher,* the writer describes a test of the lens showing "how thoughtfully and carefully Messrs. Beck, in designing their Isostigmar, have minimized the effect of diffused light. Let the observer stand in a dark passage, but facing an open door, leading to a room where there is one central source of light. On holding up the Isostigmar, so as to see the source of light, whether by reflection or by transmission, a position will be found in which a multitude or trail of images will be seen, and if the lens is used as a reflector or mirror, it will be found that whichever end of the lens is presented to the light, some of these images can be more or less perfectly focussed upon a scrap of white paper the size of a threepenny piece attached by gum to a projecting finger of the hand, these images coming to focus at varying distances from the lens. It will be found that those images reflected from the front end of the lens are brighter and more pronounced than those reflected from the back, showing how skillfully Messrs. Beck have designed the construction, so as to project much of the adventitious light outward or forward, where it is harmless."

In conclusion it may be well so say that the great working aperture, f 5.8, of this lens admits a large amount of light which enables the protographer to obtain instantaneous photographs in the dull days of Autumn and Winter under conditions impossible with the ordinary lens, and yet notwithstanding this increased advantage the sharpness of focus is in no way impaired.

These lenses are imported by Messrs. Williams, Brown & Earle, Philadelphia, sole American agents for Messrs. R. & J. Beck, London.

SOCIETY NEWS.

Reports of meetings and exhibitions and announcements of forthcoming events are solicited for publication under this heading.

THE FOURTH ANNUAL EXHIBITION of photographs at the Worcester, Mass., Art Museum was on view during the month of November. It was the largest ever hung there, consisting of 339 prints, of which 55 were by Worcester exhibitors. The exhibition is largely due to the efforts of Dwight A. Davis, who is to be congratulated on the success of his efforts in collecting a representative collection of photographs.

* * *

THE ANNUAL EXHIBITION of the Boston, Mass., Y. M. C. A. Camera Club was opened on Thanksgiving Day and will remain on the walls until December 16.

The awards were made by Frank R. Fraprie, as follows: Landscapes, first, J. S. Murray; second, H. A. Stanley. Portraits, first, H. A. Stanley; second, W. A. Smith. Still Life, first, W. A. Smith; second, J. S. Murray. Marines, first, J. S. Murray; second, G. W. Fuller. Special prize for the best picture by a member who has not received a prize before, H. A. Buff.

CORRESPONDENCE

Questions for answer should be sent to Frank R. Fraprie, 6 Beacon St., Boston, Mass., or to Dr. John Nicol, Tioga Centre, N. Y. Answers by mail will be made only in exceptional cases.

FORMAN G. HANNAH.—Yes, a lens of nine and a half inches will answer admirably for a 4½ x 6½ plate, it being near enough to our oft-repeated recommendation to employ a lens once and a half the longest way of the plate. In your search for a lens of the proper length, it is always better to select one rather longer than shorter than the prescribed length.—N.

J. H. SCOTT.—We have looked over the indices of ten volumes of the magazine for the illustration referred to, but without success. If you can give us the date within a year or two we shall search the volumes themselves, but cannot spare the time to go over them all.—N.

HAROLD REYNOLDS.—We appreciate your opinion of our ability, but are sure that among the 30,000 photographers in the country there are many better able than we to devise a plan for the proposed academy. Since, however, you want our opinion of the movement, we may say that under present circumstances we do not believe such an academy could be successfully managed by photographers themselves. In the photographic ranks there is no standard of anything beyond technique, ten sets of judges appointed to select, each the best picture or set of pictures, would in all probability each select a different picture or set of pictures. This would undoubtedly tend to jealousy and misunderstanding. Nor would those now at the top of the tree care to submit their work to the judgment of even the best men of their own class that could be induced to be a committee of selection for admission to the roll of members; and if all now in business were to be accepted as members where would be the distinction in the fellowship?

Charles W. Hearn, however, in an address before the recent meeting of the New England Association of Photographers, threw out a suggestion which we think is in the right direction. It was that they should ally themselves with some great school of education where education was kept running by endowments. Surely, the 30,000 photographers could raise sufficient to endow a chair in some of our larger colleges, or even two chairs, one of technique and commercial photography, the other of artistic photography or of photography applied to art. The diploma from such a college or university would carry sufficient weight, leave no room for jealousy, and be accepted by everybody as giving a dignity and social position to all who held them. A few dollars each from each of the 30,000, or even the half of them, would be sufficient, and almost any of the best colleges in the land would accept the endowment and carry on the work. The fact, noticed on another page, that Columbia University has engaged Mr. White to lecture on pictorial photography during the winter encourages the expectations. Such at least is our opinion and we let it go for what it is worth.

One thing, however, must be guarded against: From time to time some of the weaker or more thoughtless of the fraternity have proposed that the government should be appealed to to place photography on the same lines as medicine, law, dentistry, etc., from the malpractice of which the public must be protected. This must be guarded against, as no sane government would ever think of preventing the practice of photography by any one without the diploma of the college. The diploma might help business, but its lack will never prevent it.—N.

Lawrence Irwell.—We do not know where you can buy photographs of the common marigold and wormwood, nor, of course, what would be the price, but an advertisement in our magazine would doubtless bring you the information.—N.

W. Bush.—We are not acquainted with the book you mention, but have trusted Burnet for years, and know that it has been of immense use to thousands. It may be got from Tennant & Ward, 287 Fourth avenue, New York. You might apply to them for a price list and find the cost. The essays contain all of art that a photographer or indeed any artist need to know.—N.

(Miss) L. S. Grant.—We cannot, from your description, tell what is wrong with the lens, but most likely in cleaning the back combination you have misplaced the lenses. Examine it carefully and you will find that the double convex lens is unequal in convexity, one side being more convex than the other. The least convex side should be next to the plate, that is, inside the camera. If this is all right, and you care to send the lens to Tioga Centre, to Dr. John Nicol, he will probably be able to find what is wrong.—N.

One Who Makes Photography Pay Its Way.—The cards are certainly very much alike, but your neighbor has not copied yours, as may be seen from the different angle of the shadow on the left of the lamp post, although he has taken it from exactly the same point of view. Even if he had copied it, you could not prevent his sale, as you have not copyrighted it. Not knowing the orientation of the locality, we cannot say just when your neighbor's exposure was made, but from the shadow we should say that it was about two or three hours earlier or later. As so many of your cards are copied you should copyright them as soon as made and so prevent it.—N.

J. Harper.—We regret that we are unable to give you the information that you desire. As far as we know the instrument mentioned is no longer on sale in this country. Heyde's Photo-Actinometer, a German instrument, is made on a similar principle, but is far better mechanically and practically. It gives exposures by looking through the eyepiece, and reading on a rotating scale, and is in every way practical. Information as to price, etc., will be given you by letter if you are interested.—F.

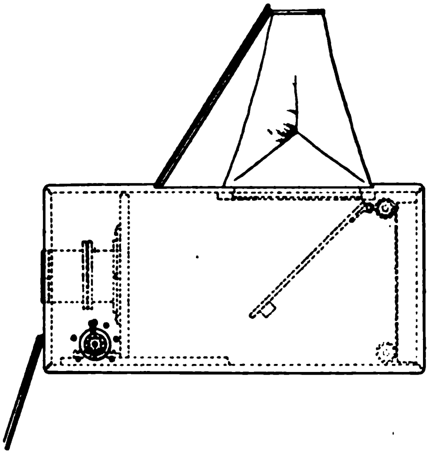
RECENT PHOTOGRAPHIC PATENTS

Abstracted by F. C. Beach. Copies of any of these patents may be obtained at 10 cents each from Munn & Co., Patent Solicitors, 361 Broadway New York City.

September 3, 1907.

864,773. CAMERA FOCUSING DEVICE. Julian A. Dimock, Denning, N. Y.

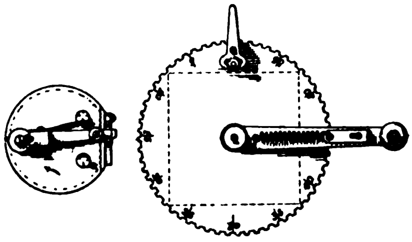
The improvement consists in setting a short radial pin into the periphery of the focusing knob in the front focusing hand camera. On the face of the box are a series pins or knobs arranged in a circle concentric with the circle of the focusing knob, each pin corresponding to a certain number of feet an object is from the camera to secure a sharp focus. The operator while looking down upon the ground glass to locate the moving object can rotate the focusing knob by holding the radial pin between the thumb and forefinger, which rubs alone over the small pins, and can quickly determine by the sense of touch which pin to rotate the knob opposite to to obtain the right focus for the number of feet the object is estimated to be from



the camera. This method, the inventor states, enables the operator to act quicker, inasmuch as the shutter can be released without waiting to observe whether the image is in the right focus.

864,883. TIME-SWITCH FOR PHOTOGRAPHIC PRINTING MACHINES. Joseph C Calhoun, Grand Rapids, Mich.

The illustration is a plan view looking down upon the two parts of the invention, mounted upon one base. The large circle on the right rotates by clock mechanism on the under side enclosed in the dotted square space. The smaller part on the left is the electric light switch operated as the two projecting members on the large disk impinge upon it. The figures on the circles represent five minute intervals. The arm with the spring over it is adjustable about the circle for any desired interval; as shown, it is set for 45 seconds. When the disk rotates the small arm is carried to the right and striking a spring-operated projection on the switch, at the left, turns on the electric white light; the light stays on till the larger adjustable arm strikes another spring-operated release point on the electric switch, which automatically breaks the circuit and shuts off the light, at the end of the 45-second exposure period. It will be seen the device can be set for any predetermined time to suit different classes of negatives.

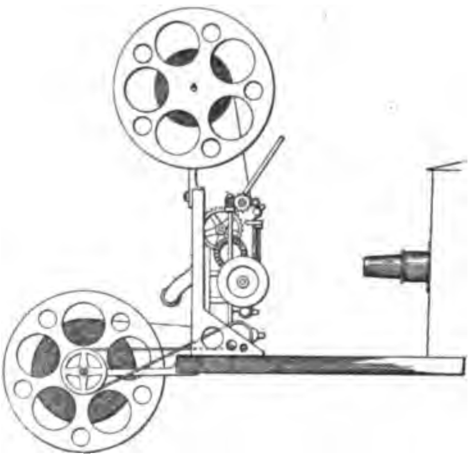


865,057. BLUE PRINT DRYING MACHINE. Chas. F. Pease, Chicago, Ill.

The machine is simply a metal rectangular box open at the bottom, standing on legs, having gas jets or steam pipes and a pair of sprocket chains in the upper part operated by a hand wheel on the left for conveying from one end of the box to the other, rolls of prints through the upper drying chamber. There are also doors in the top and side of the box to get at the prints.

865,106. KINETOSCOPE. Boyd H. Keller, New York.

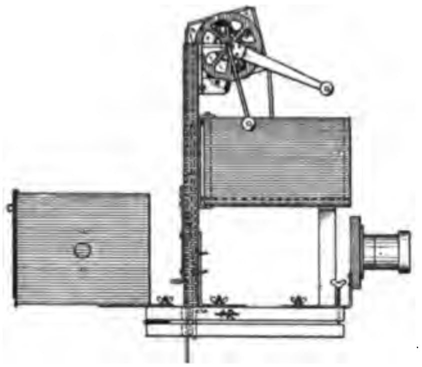
The special features in this improvement are a mechanism for regulating the movement of the film and for easily centering the film-holding devices as well as the shutter with reference to the optical center of the objective. The rotary segmental shutter has a solid portion drilled with several small holes for modifying the flickering effect of suddenly cutting off the light. There is also an automatic movement on the shaft of the operating handle which drops a shutter between the film and the light when the revolution of the crank is stopped, to cut off the heat of the light from the film when the latter is stationary.



September 10.

865,373. AUTOMATIC LANTERN-SLIDE MOVING DEVICE. William Frederick, Clyde, Ohio.

The series of lantern slides are placed in special thin metallic link-shaped frames flexibly connected together and adapted to be separated or disconnected when desired. The lantern is at the left of the illustration, which illuminates the slides as they pass through the vertical rectangular slide feed tube, located just in front of the condenser and behind the objective. The box of connected slides is supported on a frame



above the objective. By means of a special ratchet mechanism fixed just at the top of the feed tube, assisted by the weight of the series of slides in the feed tube and the rotation of one of the cranks by the operator, the slide ribbon is drawn forward behind an automatic shutter; this is then opened and the picture exhibited. A further movement of the crank shuts off the picture and brings another into position. The slide ribbon passes down through a slot in the bottom of the lantern base into a receptacle underneath. By means of this mechanism the pictures are always in their proper place and position to be shown and enables the lecturer to proceed with certainty as to the correct sequence of the views. The lecturer from the platform can by other special mechanism operate the lantern slides without the aid of a lantern attendant.

865,418. BACKGROUND FOR PHOTOGRAPHIC MEASUREMENTS.

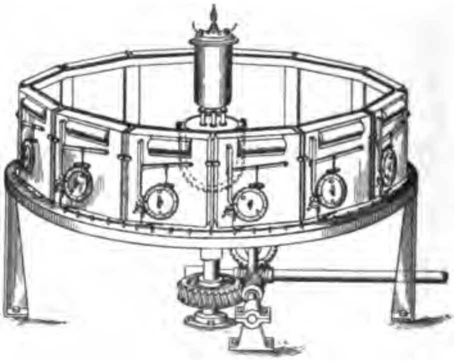
Gerhard Moe, Ladysmith, Wis.

The invention consists in a special background having vertical horizontal and diagonal lines for securing measurements for tailoring purposes. The person to be photographed is located on a line eighteen inches in front of the background and the camera is placed at a given point from the first line or a distance of eight feet eight inches. With the measurements thus obtained the circumference of the body can be readily secured by dividing the sum of the two diameters by 2 and multiplying by 3.1416. The inventor states that the photograph assists in showing the peculiarities and proportionate measurement of the individual according to the bone structure.

865,797. AUTOMATIC PHOTOGRAPHIC PRINTING DEVICE.

Arthur R. Palmer, San Diego, Cal.; Will C. Palmer, Harry A. Stanford, Chicago, Ill.

The intention of the invention is an automatic arrangement which will print from a plurality of negatives all at the same time a number of photographs from each, the times of the exposure of the negatives being all the same or different as occasion demands. A rotary cabinet is provided, encircling a central source of light such as an arc light, around which are a number of printing frames facing the light. Each frame is provided with an adjustable timing device which co-operates with one or more stationary projections whereby each negative is allowed to print a length of time corresponding to the adjustment of its timing mechanism. On each frame is a roll of sensitive paper and a winding roller, the latter being operated automatically in combination with the timing device, to wind up the exposed paper and draw a fresh surface in contact with the negative film. Each frame is also fitted with an elastic or flexible means to hold the sensitive paper in contact with the negative film, also operated in connection with the timing device. As the cabinet is revolved the timing devices of the various frames are operated by the stationary projection or projections so that when a given strip of sensitized paper in a frame has been exposed behind the negative to the light for the length of time indicated on its timing mechanism, the latter causes the flexible means to release its pressure on the paper and causes also the winding roller to rotate so as to roll up the exposed portion of the paper and bring behind the negative a fresh section of paper, the timing mechanism automattically resetting itself for the next exposure. The varying exposure for each particular negative is made simultaneously with the exposures of all the others all at the same time. In the illustration each frame has a ratchet wheel on the back and other latch mechanism for operating the wheel. The casing for the winding-up roller will be noticed in the upper part of each frame. The arc light is hung in the center. The whole machine is propelled by an electric motor.



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CLEVERLY LINKED.

Number eighty-two of the *Photo Miniature* contains an article on Modern Dark Rooms, from which we excerpt the following:

"It may seem paradoxical to begin a book avowedly devoted to the dark room with a dissertation on the possibility of dispensing altogether with this one time necessity in photography.

"Both films and plates may be changed, developed and fixed in daylight by the use of cleverly devised tanks, so compact and dainty in their construction, that my lady can carry one in her hand bag without perceptibly adding to its weight, or fear of soiling the most delicate lingerie; or the military photographer on the fighting line can sling the tank on his belt with his water bottle and develop his day's exposures at the most convenient mud puddle enroute.

"And, be it noted, these concessions to the great god Convenience have been granted, not at the expense of, but with added efficiency, for they are based on careful research and the elimination of uncertain and haphazard methods.

"Tank Development is not new. The early apparatus, however, was somewhat crude and a dark room of some kind was essential at the beginning and end of development, so that one may fairly say that the advantages of the method were not generally appreciated until the Kodak Company introduced its now well-known tank method for the development of roll films; cleverly linking the advantages of the 'time and temperature' method with the practical convenience of the light-proof tank."

ONLY ONE.

In winter the photographer has more to contend with than during the summer solstice. The light is yellower and slower, tending to longer exposures and the consequential danger of halation.

Under such conditions, to properly record what the lens brings into focus, requires a sensitive medium of unusual qualities. It must be rapid, sensitive in a high degree to the predominating colors and non-halation—and not the least—it must be light and compact so as not to render the trips afield a drudgery instead of a pleasure. Quite a formidable array of demands is it not? Yet every one of these good qualities may be found in one product, and in one only—and that is Eastman N. C. Film.

These multi-qualifications that render Eastman N. C. supreme have not always been a part of that product. They are the result of years and years of experience in film making and film selling. Not only have the theoretical demands of factory chemists been met, but also the demands of the *purchasing public.* These years' of experience form an asset of inestimable value and one that can be duplicated only by a similar number of years under equally favorable conditions.

Every roll of experience film has "Kodak" on the spool end.

PORTRAIT POSSIBILITIES.

The great charm of Kodakery lies in its universal adaptation to every time, place and mood. If the out of doors calls you, what a multiplicity of things invite your selection. On the other hand, if old Boreas is on the rampage and forcibly reminds you that "there is no place like home," home will furnish an equal number of delightful subjects for the ever ready and willing Kodak. There are the cozy corners, quiet library nooks, and even the kitchen will furnish material full of

Eastman Kodak Company

ROCHESTER, N. Y., ***The Kodak City.***

pictorial quality and interest. Whatever the environment, the human interest in the home is always the greatest and however much we enjoy making pictures of the home, making pictures of those who make the home always furnishes the greatest pleasure.

FLORENCE. EDITH L. GARITT.

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And—one of the greatest charms of home portraiture is its simplicity—simplicity not only of all necessary processes, but of the result, pictures of the loved ones as you know them in familiar dress, attitude and surroundings. Kodak Home Portraiture demands no extra apparatus, except a portrait attachment, just a simple extra lens which slips on in front of the regular lens and costs but fifty cents. Most anything neutral in tone will do for a back ground, and an adequate reflector may be formed with a towel suspended from a chair back.

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FOR SALE—Directions for restoring faded photographs to their original color. 25c. silver. E. PETERSON, 615 North Park Avenue, Chicago.

WANTED—Amateurs having cameras (not kodaks), 4 x 5, or any size larger, can earn $5.00 per week by taking pictures for us at home. Send stamp for particulars OVAL PORTRAIT CO., Caxton Building, Chicago.

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FOR SALE.—5x7 Century Grand Special Camera No. 2, Series 3, F 6-8 Goerz lens, sector shutter, and extra Century curtain shutter, 6 plate holders and leather carrying case. Special and very fine outfit and absolutely good as new. Address, J. B. SMALLEY, Bay City, Mich.

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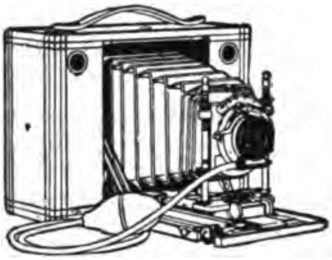

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